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ABSTRACT

The overall purpose of this study was to test the efficacy of a proposed theoretical model of leadership in educational organizations. Specifically, the study's purposes were: (1) to evaluate the descriptive, explanative, and predictive characteristics of the theoretical model for administrator effectiveness; (2) to refine and elaborate the model using the research findings; and (3) to develop implications and recommendations for selecting building administrators. Findings of the study have led to a revised model for studying leader effectiveness as well as to some general suggestions for improving principal evaluation and selection. (Author/WM)

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PUBLIC SCHOOL PRINCIPALS' LEADER STYLE, ORGANIZATIONAL SITUATION, AND EFFECTIVENESS

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PUBLIC SCHOOL PRINCIPALS' LEADER STYLE, ORGANIZATIONAL SITUATION, AND EFFECTIVENESS

PROBLEM

There can be little doubt that some administrators either are or have the potential for being more effective in their jobs. However, McIntyre (1966) posited that existing selection evaluation devices such as interviews, letters of recommendation, check lists, and informal feedback mechanisms have questionable validity. A simplistic conclusion from McIntyre's assertion would be that new methods just need to be developed.

The fallacy in this conclusion is that the invalidity of the current procedures may be symptomatic of a weakness in the underlying empirical and theoretical foundations; that is, the knowledge of administrator effectiveness is deficient in descriptive, explanative, and predictive powers. Consequently, an alternative solution to alleviate these problems would be to formulate a conceptual model for leader effectiveness as a guide to specific procedures in personnel management.

Lipham (1964), while acknowledging a considerable concern among scholars in diverse fields, noted a basic weakness in the knowledge related to leadership. He concluded that, while the interest has produced a number of significant findings for educational administration, it also has revealed how limited the knowledge of leadership is. Halpin (1966) partially explained this failure of scholars to develop adequate theories of educational leadership with the following three observations. First, a disproportionate amount of research energy has been expended on isolated problems and peripheral studies which have yielded conclusions with limited generalizability. Second, the research focus has been too parochial; that is, educational researchers have not maximally used the knowledge generated from other disciplines such as the social sciences, general personnel administration, and business management. Third, researchers have failed to establish the relationships among leader characteristics, situations, and effectiveness.

However, Hollander (1971) discerned a trend in the study of leadership to focus increasingly on a system of relationships which combines leadership style with leadership setting. The distinction between the leadership setting and the leader characteristics, traits, or style is an outgrowth of the so-called "situational approach." These concepts have been further elaborated by Hollander (1971) who defined leadership style as involving the interactive characteristics of the leader's personality which form his relationships with followers. Constructs of style for present purposes include a leader's motivational, behavioral, and attitudinal characteristics that are postulated to have a relationship with the leader's interaction with his subordinates and superordinates.

In contrast to the stylistic approach to leadership, the situational approach maintains that the qualities of the leader are variously elicited, valued, and reacted to as functions of different group settings (Hollander, 1971). Hemphill (1949) made this point more forcefully: "There are no absolute leaders, since successful leadership must always take into account the specific requirements imposed by the nature of the groups which is to be led (p. 225)."

However, Hollander and Julian (1969) maintained that, while the situational approach represented a needed adjustment of the earlier stylistic approaches, it too has overstated the case. For one thing, they state that individuals are not literally interchangeable in leader roles. Moreover, in their view the leader and the situation are not separate entities since, from the follower's standpoint, the leader is an element in the situation as well as one who shapes it by setting the stage and creating its expectations. They conclude that only recently have researchers noted the potential benefits of merging the two approaches.

The foregoing positions regarding effectiveness, style, and situation have provided the basic concepts and need for developing a theoretical model for leadership. A pictorial illustration of the proposed theoretical model for administrator effectiveness is presented in Figure 1. The model was developed and elaborated through the integration and the synthesis of conceptual assertions and empirical findings of scholars from several disciplines.

Purpose

The overall purpose of this study was to test the efficacy of the theoretical model in educational organizations. The following three specific purposes served to focus the inquiry on the aforementioned needs and problems.

1. To evaluate the descriptive, explanative, and predictive characteristics of the theoretical model for administrator effectiveness.

2. To refine and elaborate the model using the research findings.

3. To develop implications and recommendations for selecting building administrators.

Theoretical Model

This section is comprised of an overview, related literature, and hypotheses. A description of and a brief rationale for including each variable in the theoretical model is presented in the overview. The related literature includes pertinent theoretical and empirical material for each variable in the study. The final sub-section consists of the hypotheses and a brief conceptual rationale.

Overview

In essence, the model presented in Figure 1 postulates that work motivation attitudes, behavior, and perceptions of others as concepts of leader style are important independent or predictor variables for subordinate and superordinate evaluation of effectiveness. However, the individual organizational situation dictates the norms of the system wherein the leader styles are exhibited. Using these norms the participants evaluate the various leader styles positively or negatively; that is, the situation mediates the relationship between leader style and administrator effectiveness by varying the appropriateness of the style with situationally specific norms.

The reasons for including each of the variables are to enhance the potential efficacy of the model. First, the independent and mediating variables have by themselves been related to effectiveness. For example, Vroom and Deci (1970) and Ford, Borgatta, and Bohrnstedt (1969) found work motivation related to effectiveness in industry. In addition, Fleishman and Harris (1962) in industry and Halpin (1966) in education discovered a relationship between perceived behavior and effectiveness. And Fiedler's contingency model (1964, 1967, 1971) has been extensively related in many different types of organizations to effectiveness. Hill, Haynes, and Baumgartel (1973) have related the situational factors of supportiveness and innovativeness to organizational development.

Second, the leader style dimensions measure different interaction characteristics of the leader's personality which can mark his relationships with followers. For example, there is the individual's motivation as related to his attitudes toward the job; or the behavior dimension which describes his activities; or the least preferred co-worker dimension which measures the attitudes toward other individuals.

Finally, the proposed model addresses some of the earlier criticisms made by Halpin (1966). Specifically, the model integrates the theory and research from many related disciplines, contains concepts that are defined clearly and operationalized, and has effectiveness for its criterion variable. Consequently, and empirical test of this model could well yield conclusions of broad generalizability and considerable usefulness.

Variable Type	Variable Components			
A. Independent				
Leader Style	Motivational Factors -Intrinsic -Extrinsic -Risk Propensity	Behavior -Initiating Structure -Consideration	Perception of Others -Least Preferred Co-worker	
		↓		
B. Mediating				
Situation				
1. Demographic Factors	Per Pupil Taxable Income	Size -District -Faculty	Pupil-Teacher Ratio	Criteria of Quality
2. Organizational Climate	Supportiveness		Innovativeness	
		↓		
C. Criterion				
Administrator Effectiveness	Personal -Subordinate -Superordinate -Self		Organizational -Stability -Integration -Voluntarism -Achievement	

FIGURE 1. Theoretical Model for Administrator Effectiveness

Leader Style

Motivation. Motivation is the complex of forces starting and keeping a person at work in an organization. These are the forces (drives, instincts, tension states, psychological mechanisms) inside the person which start and maintain his activity toward achieving his personal goals.

Herzberg, Mausner, and Snyderman (1959) completed a research study of industrial employees' motivation to work and subsequently developed a two-factor theory of job satisfaction. These investigators interviewed 203 accountants and engineers, asking each to describe events he experienced at work which had resulted in (a) a marked improvement or (b) a significant reduction in job satisfaction.

Using content analysis, they found that positive events were dominated by reference to intrinsic aspects of the job (achievement, recognition, work itself, responsibility, advancement), while the negative events were dominated by extrinsic factors (salary, possibility of growth, interpersonal relations with subordinates, status, interpersonal relations with superiors, interpersonal relations with peers, supervision-technical, company policy and administration, working conditions, personal life, and job security). From the foregoing findings, it was posited that the presence of certain factors would act to increase the individual's job satisfaction, but the failure of these factors to occur would not necessarily give rise to job dissatisfaction. Theoretically, an individual would operate from a neutral point possessing neither positive nor negative attitudes towards his job. The gratification of certain factors which could be called "satisfiers," would increase his job satisfaction beyond the neutral point but would lead only to minimal dissatisfaction. There would be, on the other hand, a set of "dissatisfiers" which would evoke negative attitudes creating job dissatisfaction. The elimination of these dissatisfiers would lead only to minimal job satisfaction. Consequently, all "satisfiers" combined would contribute more to job satisfaction than to job dissatisfaction, and all "dissatisfiers" combined would contribute more to job dissatisfaction than job satisfaction. King (1970) maintained that research completed in the industrial setting since the original study supports these generalizations.

The satisfier factors are labeled motivators, implying their effectiveness in evoking individual behavior toward superior performance. The environmental variables are labeled hygiene factors, indicating an analogy to the concept of preventive maintenance. However, other authors who have written in the area of work motivation have employed a variety of terminology. Wolf (1970) noted that the motivator factor has been called the intrinsic factor, the satisfiers, and the job content factor. The other factor has been called the hygiene factor, the maintenance factor, the extrinsic factor, the dissatisfiers, and the job context factor.

Herzberg, Mausner, and Snyderman, in conceptualizing the two-factor theory of job satisfaction, related it to the need-hierarchy concept of Maslow (1970). They asserted that the factors leading to positive job attitudes have done so because they have the potential to satisfy the individual's need for self-actualization. The most important opportunity for self-actualization would be the job. From the performance of the task, the employee can achieve the rewards that will reinforce self-actualization. Accordingly, the factors (satisfiers, motivators) of the job itself motivate the individual to satisfy his need for self-actualization. Conversely, the dissatisfiers or hygienes can be related to physiological and safety needs. Hygienic factors must meet individual needs for job security, fair treatment, interpersonal relations, and working conditions. When the job surroundings become conducive to these needs, dissatisfaction is reduced.

Sergiovanni (1967) replicated the Herzberg study in an educational organization in which seventy-one teachers were interviewed. The interview transcripts were then coded, using a content analysis technique. He concluded that the findings supported the assertion that satisfiers and dissatisfiers tend to be mutually exclusive. In addition, factors which accounted for positive attitudes among teachers were related to the work itself and factors which accounted for negative attitudes among teachers were related to the work conditions.

The research findings of Blum (1960) added to the understanding of work motivation. His conclusions indicate that the desire for security can be a deciding factor in vocational choice. Some persons might select a job situation where elements of security, such as a probability of continued employment and financial safeguards are assumed. Hence, these persons are concerned with material aspects of the environment and prefer a job situation where hygiene is high. Other persons, less concerned with security, would choose jobs in which opportunities for responsibility, achievement, recognition, and advancement as motivators or satisfiers are high.

Borgatta (1967) developed the Work Components Study (WCS) questionnaire which was designed to merge and operationalize Herzberg's two-factor theory of work motivation and Blum's findings regarding security orientation among workers. Ford, Borgatta, and Bohrnstedt (1969) observed that administrative positions are relatively low in security factors and high in intrinsic factors. Consequently, they postulated that an individual who places primary importance on hygiene factors should be regarded as an undesirable candidate for an administrative position. Using the WCS with new, college-level employees of an industrial organization, Ford, Borgatta, and Bohrnstedt found that those who scored the highest on a subscale measuring intrinsic motivation in a competitive situation were thought by the company to contribute the most to accomplishing the organization's goals.

Employing a modified form of the WCS for educational employees, Miskel (1973) made a finding somewhat parallel to the foregoing with a sample of undergraduate senior education students, teachers, and administrators. In testing the assertion that individuals who are upward mobile will be intrinsically motivated in unstable situations with less concern for security, Miskel found the following: (a) principals have the highest tolerance for work pressure, (b) central office administrators have the least desire for conservative security, and (c) those individuals aspiring to the doctorate scored significantly higher on competitiveness desirability, tolerance for work pressure, and willingness to seek reward in spite of uncertainty.

The above findings of Ford, et al. (1969) and Miskel (1973) lend indirect support to the theoretical position of Vroom and Deci (1970). They posited that the performance of a person on a job is a function of that person's skill or ability combined with his motivation to use this skill or ability in the actual performance of the job. Furthermore, performance is equal to the product of an individual's ability and motivation rather than being equal to the sum of these two variables. More direct support is provided by Ghiselli (1968). He found that personality traits and motivational factors interact to determine the effectiveness of managers.

Leader Behavior. The Ohio State University leadership studies (Stogdill and Coons, 1957) attempted to identify dimensions of leader behavior through an instrument, the Leader Behavior Description Questionnaire (LBDQ), designed to describe how a leader carries out his activities. Two dimensions were isolate: Initiating Structure and Consideration

The "initiating structure" dimension refers to those aspects of a leader's behavior that delineate the relationships between himself and the members of the work group while serving to establish well-defined patterns of organization and channels of communication. House, Filley, and Kerr (1971) noted that the initiating structure deals with the instrumental behavior of leaders. According to Parsons (1951), instrumental behaviors are directive, task-oriented, and necessary for an organization to solve the basic functional problems both of adaption to its environment and of goal attainment by allocation and mobilization of resources.

"Consideration" refers to behaviors that are indicative of friendship, mutual trust, respect, and warmth of relationship between the leader and subordinate. House, Filley, and Kerr (1971) observed that the consideration dimension of leader behavior is similar to that frequently described as supportive, socioemotional, or expressive. They further note that Parsons (1951) and Etzioni (1961) postulate that expressive activities serve the function of social and normative integration of group members.

Halpin (1966) summarized the early leadership studies by singling out the major findings. First, the evidence indicates that initiating structure and consideration are fundamental dimensions of leader behavior. Second, superordinates are more concerned with initiating structure and subordinates are more concerned with consideration. Third, effective leader behavior is associated with high performance on both dimensions. Finally, changes in attitudes of group members toward each other, and group characteristics such as harmony, intimacy, and procedural clarity, are significantly associated with the leadership style of the leader.

In later studies Fleishman and Harris (1962) found that low consideration and high initiating structure correlate with high grievances and turnover. These researchers further stated that foremen can compensate for the disadvantages of high initiating structure by increasing consideration but that foremen with low consideration cannot compensate by decreasing their initiating structure. Oaklander and Fleishman (1964) also found that while the two dimensions are often independent of each other, leaders who rated high on both initiating structure and consideration were more likely to be judged effective by their superiors and to have desirable effects on productivity. However, the studies revealed by Korman (1966) showed no relationship between initiating structure and effectiveness.

In the educational organization, Brown (1967) reported that teachers appear both to accept the fact that strength on both dimensions is difficult to achieve and also to express satisfaction in a principal who exhibits strength on either factor. However, weaknesses on both dimensions or a weakness in one without a corresponding strength in the other generates reactions of low satisfaction in teachers and low effectiveness in principals. Finally, Brown and Anderson (1967) found that faculty members' global job satisfaction with the teaching situation was greater in schools whose principals exhibited expressive rather than instrumental leader behavior. Finally, Keeler and Andrews (1963) found that both initiating structure and consideration of principals are significantly related to student achievement.

Leader Perception of Others. Fiedler's contingency model (1965, 1967) is probably the most extensively tested attempt to integrade individual characteristics with structural and task properties of the situation. The basic postulate of this model is that group or organizational effectiveness depends upon two interacting variables: (a) the attitude system of the leader toward fellow workers, and (b) the favorableness of the situation. An elaboration of Fiedler's model follows.

Leaders are classified on the basis of the Least Preferred Coworker (LPC) score. The score is obtained by asking an individual to think of all the persons with whom he has ever worked, and then to describe the one person in his life with whom he has found it most difficult to work. The description of the least preferred co-worker is indicated on a scale with a semantic differential format.

Fiedler (1972) has maintained that the LPC is interpreted as an index of total hierarchy. High LPC persons, individuals who describe their least preferred co-worker in positive terms, are seen as primarily motivated to relate to others. On the other hand, low LPC persons, or those who describe their least preferred co-worker in very unfavorable terms, are basically motivated by task accomplishment. In summary, low LPC leaders are task-oriented while high LPC leaders are more considerate and interaction-oriented.

In discussing the situational components of the contingency model, Fiedler (1972) noted that most studies based on the model classify the leadership situation on three dimensions: (a) leader-member relations, (b) task structure, and (c) power position. He further concluded that leader-member relations is by far the most important single dimension. Fiedler reasoned that leaders will have more influence if they are liked, respected, and trusted by the members than if they are not.

Task structure appears to Fiedler (1972) to be second in importance. The rationale for this conclusion is that tasks that are highly structured, explicit, or programmed give the leader more influence than tasks that are vague, nebulous, or unstructured.

Finally, the least important situational variable is position power (Fiedler, 1972). However, leaders are likely to have more influence if their position allows them to reward and punish.

Combining the LPC score and situational factors yields the following assertions. In an unfavorable situation, where their control is low and the outcome is uncertain, the high LPC leaders will seek to assure themselves of being related, and their behavior will be directed toward establishing relationships. In situations in which their relatedness is already assured, the high LPC leaders will be motivated to seek such secondary goals as recognition from superiors and admiration from subordinates. Fiedler (1972) asserted that these goals, in a favorable leadership situation are realized by playing the role of the responsible, efficient, or even officious leader; that is, by actually or seemingly attending to the task.

Conversely, the low LPC persons, in an unfavorable situation, will devote their energies to achieving their primary goal of task accomplishment. However, in favorable situations this type of leader will seek to develop pleasant work relations.

Fiedler (1971a) reviewed the empirical findings related to the contingency model and concluded that it had been extensively validated. Subject to Hollander's (1971) caution regarding the generalizability of these findings, the research related to the model can be found in the article by Fiedler (1971a) and will not be evaluated here.

Instead, two important implications of the findings follow. First, the relationship-motivated and the task-motivated leaders can perform well under some situations but not others. Second, the very concepts of good leaders and poor leaders are not accurate. A better conceptualization is that a leader can perform well in some situations but not others. Consequently, Fiedler (1972) concludes that leader effectiveness depends as much on the situation as the personality.

The use of the LPC also assisted this project in answering some recent criticisms among researchers that viewing leadership only in terms of the perceptions of followers yields a biased description of a leader's activities. With the LPC the leadership styles are determined on the basis of the leader's attitudes, which are methodologically independent of measures of follower's reactions.

Organizational Situation or Climate

Hollander (1971) strongly asserted that greater specification is needed in dealing with the variants of the leadership setting. He specifically asserted that the concept of organizational climate should be explored as a situational variable in leadership studies. Support for this is provided by Frederikson (1972). He suggested that situations can be classified on the basis of their similarity with regard to the behaviors they elicit. Using these assertions, plus the empirical findings of several researchers, and also the apparent conceptual relationships as a basis, the climate variables developed by Hill, Haynes, and Baumgartel (1972) and described by Adair (1970) were easily integrated into the theoretical model. To develop properly the relationships among variables, a brief review of climate literature, a description of the situational or climate measure, and a discussion of relationships follow.

Adair (1970) noted that several approaches to the study of organizational climate are apparent in the literature. He concluded that the most respected approach is to attribute and to interpret organizational climate in terms of the attitudes of those members of the organization who enjoy higher status. Dimock and Sorensen (1967) and Watson (1966) exemplify this approach. A second approach as illustrated by Belasco (1966) and Frederiksen (1968) emphasizes the role expectations of significant others. A third is a structural approach which tends to diminish the distinction between the study of organizational climate in particular and the organizational behavior in general. Further, this approach regards climate as an essential concomitant of the total organizational management patterns. Bennis (1966), House (1968), Sell (1968), Selk (1968), and Taylor (1968) are representative of the structural focus of organizational climate.

A fourth view is to regard climate as a function of the organization's technology level (Adair, 1970). For example, using technology in an organization can effect the climate for greater openness to innovation. This position is supported by the finding that early receptivity to technical innovations in production processes evolves into increased demand for managerial innovations such as data processing or operations research (Burack, 1967). Research on innovativeness in many different types of organizations has demonstrated the importance of climate variables. The studies by Griffiths (1964) and Miles (1964) in school systems, by Glatt and Shelley (1968) in research groups, and by Thompson (1965) in business firms illustrate this importance. Finally, Andrews (1966) has maintained that the climate of an organization is a key to successful practice.

For the proposed study, the approach taken by Hill, Haynes and Baumgartel (1972) and Adair (1970) in relating the technology level to the organizational climate is posited to be a potentially important situational variable in leadership theory. These writers operationalized organizational climate with two factors: innovativeness and supportiveness.

Innovativeness is defined as the receptivity to innovation by which organizations can be differentiated as a result of differences in either their management structures or the technological sophistication of their functioning. Furthermore, differences in innovativeness are taken to be independent of the particular individuals occupying organizational roles (Adair, 1970).

Supportiveness is defined as the receptivity to innovation by which organizations can be differentiated as a result of differences in the behavior, attitudes, and perceptions of managerial personnel. Consequently, differences in supportiveness are postulated to be dependent on the particular individuals occupying managerial roles, especially top management roles (Adair, 1970).

To operationalize these factors of innovativeness and supportiveness, the Situational Description Questionnaire was developed. This instrument measures freedom, participation, interdepartmental conflict, and the use of innovative or modernization efforts in organizations. Specific items were based on both the theoretical literature and interviews with executives (Hill, Haynes, and Baumgartel, 1972).

The conceptualization and the empirical measure of organizational climate as described above appears to be particularly appropriate to the proposed theoretical model. Each dimension is easily and logically related to the various leader style dimensions. For example, in an innovative climate a leader's motivational pattern of high intrinsic, high risk propensity, low intrinsic, and low security orientations appears to be positively related to effectiveness. On the other hand, the supportive dimension of climate appeared to relate directly to the leader-member relations which Fiedler (1972) asserted was by far the most important.

These relationships illustrate the potential variable interactions in the model. Further relationships are discussed in greater detail in the rationale and hypotheses section which follows the next section on leader effectiveness.

Administrator Effectiveness

Halpin (1966) delineated intermediate and outcome criteria for determining administrator effectiveness. Basically, the intermediate criteria include perceptual evaluations or ratings of an administrator's performance, while the outcome criteria include changes in the types or amounts of the organizational outcomes.

Halpin (1966) further proposed that the best criteria for evaluating administrator effectiveness are expressed in terms of group or organizational outcomes that can be attributed to the administrator. His position is essentially that administrator effectiveness is best measured by changes in organization maintenance and achievement variables. A weakness in Halpin's work is that it lacks elaboration of the effectiveness variables to a point where they can be explicitly defined and operationalized.

However, Caplow's (1964) theoretical formulation elaborates four criteria for organizational effectiveness that appear to be roughly parallel to Halpin's maintenance and achievement factors. Caplow's four variables are instability, integration, voluntarism, and achievement.

Stability is a measure of the organization's ability to conserve or increase the status of its positions, that is, to maintain its own structure. By maintaining the status differences, the organization controls the behavior of its members and some aspects of the external environment. The abilities to continue existing programs, to initiate new programs, to manipulate goals, and to enforce norms are included in the stability variable. An increase in the stability variable increases the amount of social control and, if other variables remain unchanged, the ability of the organization to carry out its program (Caplow, 1964).

Integration is a measure of the organization's ability to maintain or to increase the total volume of interaction among its positions and to control internal conflict. More interaction implies better mutual adjustment, less factionalism, more communication about problems and procedures, and greater agreement among the members about the organizational program (Caplow, 1964).

Voluntarism is a measure of the organization's ability to maintain, without coercion, valences between the status positions and among the component individuals and groups, Caplow (1964) further asserts that voluntarism is generally equivalent to morale. Furthermore, it measures the organization's ability to provide satisfaction for individuals and the desire of members to continue their participation.

Finally, achievement, as a criterion for effectiveness, is the net result of the organization's activity. This variable also is subject to evaluation in its own environment and is usually measurable with some degree of objectivity (Caplow, 1964). For a school this could include such measures as input-output learning levels, cost-efficiency, and the quality of the output.

Although Halpin thought that outcome variables are the best criteria for determining administrators' effectiveness, he recognized that social scientists temporarily may be forced to settle for intermediate criteria. The intermediate criteria usually take the form of ratings of the administrator's effectiveness (Halpin, 1966).

Four major weaknesses of the intermediate method for determining effectiveness were differentiated by Halpin (1966). First, the correlation between the judges' evaluations and the organization's outcomes are assumed to be significant, whereas in the present study this is an empirical question to be described later. Second, the ratings may be contaminated by a "halo effect" as raters tend to extend their evaluation of a supervisor in one area of behavior to other areas as well. Wofford (1971) used a partial correlation method to overcome rater bias. Third, differing sources of ratings can yield differing effectiveness levels. Fourth, the inter-rater reliabilities tend to be low.

A valid criticism of Halpin's emphatic position might be that he was too didactic in declaring his output variables as the "ultimate" criteria and the intermediate variables as "stopgap" criteria for administrator effectiveness. His overstatement may have been in reaction to an almost exclusive use of the intermediate variables by other researchers. However, the more moderate and conceptually powerful position presented in the theoretical model is that both types of variables should be considered product variables. An explanation follows.

First, a more accurate name than intermediate criteria is individual or personal criteria for administrator effectiveness. Second, in examining the preliminary discussion of Figure 1, it was noted that leader style is exhibited in a situational climate which dictates the norms for evaluating the administrator and for changing the school. Consequently, the products are the perceived effectiveness of the administrator as an individual and the changes in the organization's stability, integration, voluntarism, and achievement. Thus the concepts of personal and organizational outcomes become complementary criterion variables resulting from the interacting style and situational variables. Because the personal and the organizational variables are not necessarily related, four conceptual categories are proposed for administrator effectiveness as follows: (a) high on both dimensions; (b) high on one and low on the other dimension and (c) vise versa; (d) low on both dimensions.

As effectiveness is posited to be a combination of personal and organizational criteria, the next step is to state the conceptual formulations at measurable levels. In addition, as the model focuses on the administrative effectiveness of the principal, the germane indicators must be specified for the building administrator.

For organizational effectiveness, indicators of the stability criterion include the development of new programs, the employees' training for added responsibility, and an expansion of the school's role. The level of activity, the level of communication among peers, and the number of social isolates at the student and the staff levels are measures of organizational integration. Indicators of voluntarism include low employee turnover rates, high employee desire to remain a member of the staff, and low student absentee and drop-out rates. Finally, achievement as a criterion for organizational effectiveness is the quantitative and perceived quality of the school's graduates.

For personal effectiveness of the principal, the level of positive or negative sentiment among his primary reference groups is assumed to be the most important criterion. The reference groups are defined as the building staff, the students, the principal's line supervisor, and the school district patrons. Sentiment is defined as the positive or negative evaluations of the principal globally, as a decision maker and as a group leader.

Wofford (1971) found five managerial behavior dimensions that were related to production. These five factors are as follows: (a) group achievement and order, (b) personal enhancement, (c) personal interaction, (d) dynamic achievement, and (e) security and maintenance.

These variables include behaviors involving the functions of planning, organizing, and controlling, as well as leading. Consequently, reference groups--teachers as subordinates and district level administrators as superordinates--perceptually and subjectively evaluate a building principal on these dimensions of administrative behavior.

Rationale and Hypotheses

In the foregoing section, the position has been taken that an administrator at work in an organization has particular motivational, attitudinal, and behavioral characteristics that are idiosyncratic. However, the second position that should be equally clear is that an administrator is affected greatly by the social environment; that is, the organizational climate of the school defines the appropriate channels of individual expression. Dubin (1968) elaborated the foregoing position by noting that in recent years, behavioral scientists have tended to agree that there is no general cause and effect connection between specific psychological mechanisms and specific behaviors. A reason for this is the difficulty, if not impossibility, of establishing a one-to-one relationship between something called an internal motivating force and a resulting activity. One current view suggests that internal motivating forces start the human being in action, and sustain his activity, but that the determinants of particular actions are outside the person in the social structure (Maslow, 1970). The consequence of these assertions is that to consider administrator effectiveness the individual or leader-style factors and the situation or climate factors must be considered simultaneously. With these complexities in mind, the posited relationships in the model will now be discussed.

In developing the Work Component Study as a measure of work motivation, Borgatta (1967) assumed that individual persons respond differently to the various factors that surround the job situation and that an organization would want to favor for managerial positions those persons who have a moderate or incidental concern for hygiene factors rather than those who are greatly or even overly concerned. The rationale supporting this position is that managerial positions are probably low in hygiene and high in opportunities for intrinsic reward. Consequently, an individual who has a play-safe or security complex cannot function well in the typical managerial positions, since low hygienic conditions create frustration and reduce the motivation to perform.

Extending the above rationale to the educational organization, it is reasonable to assume that the most desirable individuals for positions in the school principalship are those who place emphasis on the intrinsic factors rather than extrinsic factors of the job. The comparative results should be that administrators oriented towards the job itself will acquire positive job attitudes and be motivated to perform while administrators oriented to the job surroundings will acquire negative job attitudes and lack of motivation to perform. Vroom and Deci (1970) held a similar view when they posited that differences in performance among people doing the same kind of work are reflections of differing abilities and their motivation to work.

A possible fallacy in the foregoing positions is the implied assumption that a favorable climate and universal norms exist. However, using the present model as a guide, a positive relationship between these assertions and both types of effectiveness should be found when the climate norms dictate innovation and interpersonal support.

The concept of leader behavior has met with mixed empirical results when initiating structure and consideration are related to effectiveness. For example, Likert (1961), in reporting on a summary of research observed, found that in a majority of studies, supervisors in departments of high productivity showed higher levels of consideration than did those with low productivity. Halpin and Winer (1957) repeatedly found that leaders high on initiating structure were more effective. Fleishman and Harris (1962) found that leaders rated high on both initiating structure and consideration were more likely to be judged effective by their superiors and to have desirable effects on productivity and group morale. However, Korman (1966) revealed several studies showing no relationship between initiating structure and effectiveness. The position in this proposal is that the behavioral dimensions of leader style also must be evaluated in terms of the situational norms.

A reasonable assertion appears to be that a principal with high initiating structure and low consideration in a climate with low innovativeness and high supportiveness would be rated low on personal effectiveness but high on organizational effectiveness. However, if the supportiveness dimension was low, that is, if central office personnel do not desire change, the principal with high initiating structure would be low on both types of effectiveness.

The supportiveness dimension of climate has been related to the leader-member relations, while the innovativeness dimension has been linked to the task structure. Since Fiedler (1972) asserted that these are the two most important situational variables of the contingency model, the postualted relationships between LPC and effectiveness can be tested for the school principal. Accordingly, the low LPC principals, that is, those who are task-oriented, tend to be more effective in relatively unfavorable situations and very favorable situations. Conversely, high LPC administrators or those who are relationship-oriented tend to perform best in situations of intermediate favorableness. The particular category of effectiveness in the proposed model cannot be specified but remains an empirical question.

Using the posited relationships in the above paragraphs as examples, conclusions can be drawn. First, a large permutation of all the conceptual relationships exists. Second, the proposed variables in the model have a potential for describing and predicting principal effectiveness. Consequently, the following hypotheses were deduced to guide the investigation.

H. 1. The leader-style variables and climate variables will be significantly correlated with perceived and organizational effectiveness criteria of principals.

H. 2. The leader style variables and climate variables will be significant predictors of principals' effectiveness levels.

H. 3. The leader style variables will significantly discriminate among principals grouped into differing combinations of effectiveness and situational variables.

Methodology

The research methodology was a sample survey with personal interviews, mail questionnaires, and telephone interviews as the data collection techniques. Sample survey research as defined by Kerlinger (1973) is that branch of scientific investigation that selects and studies samples chosen from populations to discover the relative incidence, distribution, and interrelations of social and psychological variables. These variables include sociological facts, or the attributes of individuals resulting from their membership in social groups or sets, and opinions, attitudes, and behaviors.

Kerlinger (1973) further asserted that despite its potential value in assisting to solve theoretical and applied educational problems, scientific survey research has not been used to any great extent by educators. This methodology is particularly adaptable to obtaining personal and social facts, beliefs and attitudes that are so important in administering a school.

Three advantages of survey research in education should be noted. First, a great deal of data can be economically collected from a large population. Second, the data are accurate within sampling error ranges (Kerlinger, 1973). Third, the results appear to be valid. For example, Dohrenwend and Klein (1965) maintained that the reduction in validity of survey data due to variations in data collection and coding processes is usually considerably exaggerated. Parten (1950) concluded that data collected by survey methods tend to correlate closely with test criteria. Finally, Campbell and Katona (1953) found that serious validity problems in survey research data are rare.

With this definition, potential uses, and advantages of the sample survey as a basis, the procedures are detailed in the following paragraphs. The order of presentation is as follows: population and sampling procedures, instrumentation, and data collection procedures.

Sampling Procedures

School districts. The target population was the principals and teachers in the 49 largest public school districts in the state of Kansas. This size limitation allowed for the inclusion of the personal interview technique which Kerlinger (1973) has asserted is expensive in terms of resources, but potentially is the best research instrument available. By using the larger districts, more principals were selected from each which reduced the number of interviews with supervisors.

The sampling procedures for selecting school districts are summarized in the first two parts of Table 1. Based on the number of principals, the 49 school districts were stratified into three groups of 25, 19, and 4. The four largest districts were included in the study. The smaller districts with a minimum of four principal returns also were included in the study. Consequently, 18 districts with five to seven principals and 17 districts with eight to nineteen principals were

TABLE 1

Summary of Sampling Procedures

Original District and Principal Samples

Number Principals/ District	District Population	District Sample	Principal Sample	Principal Returns	
	N	N	N	N	%
5-7	43	25	159	102	64.1
8-19	19	19	141	86	61.0
Over 20	4	4	65	46	70.8
Total	66	48	365	234	64.1

Final District and Principal Samples

Number Principals/ District	Final District Sample	Final Principal Sample	Principal Returns		Useable Returns	
	N	N	N	%	N	%
5-7	18	102	71	69.6	65	63.7
8-19	17	86	71	82.6	64	74.4
Over 20	4	46	37	80.4	36	78.2
Total	39	234	179	76.5	165	70.5

Final Principal and Teacher Samples

Number Principals/ District	Principals in Study	Teacher Sample	Teacher Returns		
	N	N	N	%	Per Principal
5-7	65	518	381	73.5	5.86
8-19	64	512	391	76.1	6.11
Over 20	36	288	224	77.8	6.22
Total	165	1318	996	75.6	6.04

selected for inclusion. Therefore, a total of 39 districts comprised the sample.

Principals. A current list containing the principals' names by school district was compiled from sources as the Kansas State Department of Education, the professional associations, and the school districts. Each name in each district was assigned a number beginning from one. The principals were then stratified into elementary and secondary levels. Equal numbers from each level were to be selected when possible. Five to eight principals from each of the 35 smaller districts and twelve principals from the four larger districts selected with a table of random numbers.

A summary of the number of principals selected and participation rates are presented in Table 1. Of the 365 selected from the 49 districts 234 or 64.1% of the principals returned the questionnaires. However, 179 or 76.5% returned the research instruments from the 39 districts included in the study. Incomplete data were received from 14 of the 179, so the final sample of principals was comprised of 165 principals from 39 districts.

Teachers. Current lists containing the names by school buildings of teachers working under each of the 16 principals also were compiled. Each name on each of the 165 lists were assigned a number beginning from one. Eight teachers were selected from each list using a table of random numbers.

A summary of the teacher returns are given in Table 1. A total of 1318 teachers were sampled with 996 or 75.6% returned the questionnaires. This gave an average of 6.04 teacher observations about the principal and building situations.

Superordinates. Finally, one supervisor or superordinate was selected to evaluate the principals and the building situations. In the smaller districts the superintendent or assistant superintendent was selected. However, in two larger districts the directors of elementary and secondary education were selected. This group consisted of 41 supervisors. All of these selected agreed to participate.

Sample characteristics. Table 2 is comprised of descriptive statistics for the sample. With the exception of only 3.6% of principals being female, diversity and representativeness for meaningful generalizations appear to be adequate. For example, different district sizes, building levels, and educational attainment levels are represented by relatively large numbers from 39 school districts.

Instrumentation

Work motivation factors. The measure of these attitudes was the Educational Work Components Study (EWCS) questionnaire. Borgatta (1967) developed the original Work Components Study (WCS) to merge and operationalize Herzberg's two-factor theory with Blum's findings regarding the security orientation among industrial workers. Essentially, the items ask the respondents to judge the desirability of jobs with varying

TABLE 2

Frequencies of the Descriptive Categorical Variables for the Final Sample (N=165)

Variable	Frequency Absolute(N)	Relative(%)
Sex		
Female	6	3.6
Male	159	96.4
Principals Per District		
5-7	65	39.4
8-19	64	38.8
20 or more	36	21.8
Building Level		
Elementary	85	51.5
Secondary	80	48.5
Educational Degree Level		
Bachelors	0	0
Masters	58	35.2
Masters Plus 30	78	47.3
Specialist	16	9.7
Doctorate	13	7.9

amounts of intrinsic factors, extrinsic factors, and intrinsic combined with risk factors.

Miskel and Heller (1973) and Miskel, Glasnapp, and Hatley (1975) modified the Borgatta instrument to suit the educational organization by replacing words relating to industrial work situations with words pertaining to an educational work situation. They used three statistical techniques to test the instrument's adaptability to the educational situation. Principal components, varimax orthogonal and maxplane oblique R-factor analysis procedures were used to determine the factorial stability of the EWCS, while Cronbach's alpha coefficient (1951) was calculated to estimate the internal consistency of the items.

The criteria for determining the number of factors were the following: scree test, discontinuity of eigenvalues (Cattell, 1968), interpretability (Rummel, 1970), the findings of earlier research on the WCS (Borgatta _et al._, 1968), and Kaiser's eigenvalue-one (1960). In addition five criteria were used in selecting items: (a) minimum factor loadings of .40 after varimax rotation, (b) minimum pattern loadings of .40 after maxplane rotation, (c) minimum structure loadings as product moment correlations of the items with the oblique factors (Harmon, 1967) of .40, (d) items loading on the factors indicated by the original developers (Borgatta _et al._, 1968), and (e) minimal cross-loading on two or more factors. No _a priori_ preferences were made regarding the importance of these criteria. Consequently, where the criteria were in conflict, a judgement was made as to which made the most overall sense.

The result was a measure composed of 49 Likert-type items representing six factors. However, the earlier EWCS data were reanalyzed to select six items per factor or 36 total with the highest orthogonal factor loadings. The items, means, standard deviations, and two sets of factor loadings by subscale are presented in Table 3. A description of the six factors based on the work of Ford _et al._ (1969) and the highest orthogonally loaded item for the present principal sample follow.

1. Potential for personal challenge and development. This factor contains items to measure the desire for creativity and responsibility in the job. The highest factor loading was .75 for the item "I would have a chance to further my formal education."

2. Competitiveness desirability and reward of success. These items measure whether an individual seeks job situations where the salary is determined by merit and the competition is keen. The item "salary increases would be a matter of how much effort you put in" had the highest loading of .84.

3. Tolerance for work pressure. This factor contains items measuring attitudes toward situations where the work load might be excessive. The highest factor loading was .73 for the item "I might sometimes have to take work home with me."

4. Conservative security. These items measure the individual's desire for security with well-defined promotion guidelines

TABLE 3

Means, Standard Deviations, and Factor Loadings for EWCS Items

Item	Mean	S.D.	Factor Loading[1]	Factor Loading[2]
Factor 1 - Potential for Personal Challenge and Development				
9. there would be opportunity for creative work	4.44	.55	.58	.61
21. there would be emphasis on individual ability	4.32	.56	.54	.62
22. the school district would encourage further specialized work	4.08	.64	.59	.60
25. I would have a chance to further my formal education	4.12	.62	.75	.60
28. I would always have a chance to learn something new	4.24	.52	.60	.66
36. there would be emphasis on originality	4.03	.55	.61	.67
Factor 2 - Competitiveness Desirability				
2. salary increases would be strictly a matter of how much I accomplished for the school district	3.57	.96	.70	.74
7. the school district would be involved in heavy professional competition	3.01	.97	.55	.44
11. salary increases would be determined by the amount of effort exerted	3.77	.87	.84	.80
24. competition would be open and encouraged	3.71	.73	.43	.45
32. there would be emphasis on the actual production record	3.40	.74	.54	.60
34. salary increases would be a matter of how much effort you put in	3.73	.82	.79	.77

TABLE 3 Continued

Item	Mean	S.D.	Factor Loading[1]	Factor Loading[2]
Factor 3 - Tolerance for Work Pressure				
4. school related problems might come up that I would have to take care of myself outside regular hours	3.33	.62	.63	.65
8. the work might be excessive sometimes	3.46	.63	.72	.70
15. I might sometimes have to take work home with me	3.44	.54	.73	.66
19. the work might build up "pressures" on me	3.11	.72	.55	.58
31. the work might come in big pushes sometimes	3.35	.53	.64	.69
33. I might be on call when there is pressure to get jobs done	3.50	.61	.64	.62
Factor 4 - Conservative Security				
6. I would be involved in managing a small group of people doing routine jobs	2.87	.95	.63	.49
10. the work would be routine, but not hard to do	2.54	.79	.72	.74
18. the work would be routine, but the initial salary would be high	3.05	.81	.72	.74
23. promotions would come automatically	3.21	.66	.65	.61
27. the work would be routine, but highly respected in the community	3.15	.75	.76	.75
30. the salary increases would be regularly scheduled	3.48	.69	.60	.50

TABLE 3 Continued

Item	Mean	S.D.	Factor Loading[1]	Factor Loading[2]
Factor 5 - Willingness to Seek Reward				
1. I could get fired easily, but the work would be very interesting	2.71	1.03	.79	.68
14. the work might run out, but it would be extremely interesting while it lasted	3.79	.95	.50	.61
17. I could get fired easily	2.08	.83	.82	.73
26. I could get fired easily, but the rewards would be high	2.72	1.01	.77	.79
29. the job would be insecure	2.03	.76	.78	.66
35. rewards would be high, but if one loses his job it would be very difficult to get another one	2.11	.84	.68	.65
Factor 6 - Surround Concern				
3. the lighting would be good	3.62	.74	.71	.62
5. the community would have good recreational facilities	3.98	.59	.48	.59
12. the climate would be pleasant	4.12	.60	.67	.66
13. the community would be a wonderful place to raise a family	4.48	.59	.45	.57
16. the physical working conditions would be attractive	4.07	.50	.63	.67
20. the ventilation would be modern	3.67	.61	.69	.69

[1] Data are for the present sample of 234 principals

[2] Data are for a previous sample of 2,369 educators

and job routines. The item "the work would be routine, but highly respected in the community" had factor loading of .76.

5. Willingness to seek reward in spite of uncertainty versus avoidance of uncertainty. This factor contains items measuring the individual's willingness to do interesting work even though it might be a temporary job. The highest loading of .82 was found for the item "I could get fired easily."

6. Surround concern. These items measure the person's concern with the hygienic aspects of the job. The item "the lighting would be good" had the highest factor loading of .71.

As can be observed from the foregoing descriptions and the data presented in Table 3, the factor loadings were, with few exceptions, above .50 for both sets of data. In addition, the factor loadings are consistent between sets.

The Cronbach's alpha coefficients as estimates of reliability for the factors are presented in Table 6. The reliability estimates of the original seven factor, 66 items WCS ranged from .65 to .85 (Borgatta _et al_., 1968) while the estimated for the six factor, 49 item EWCS questionnaire ranged from .70 to .83. The reliability of the 36 item EWCS with the present sample compare very favorably with a range of .72 to .84.

The WCS and EWCS were administered as self-report forms. The respondents read: "How desirable would YOU consider each of the following items in a job for YOU? A job where. . . ." The items followed, each with a five category, Likert-type response varying from "Completely undesirable, would never take the job" to "Extremely desirable, would favor the job greatly." The response categories were assigned ascending values of one to five.

Leader Behavior Description Questionnaire (LBDQ). The measure of the principal's behavior was the LBDQ. This instrument was developed as part of the Ohio State Leadership Studies which focused on behavior rather than on personality traits. The original version of the LBDQ was constructed by Hemphill and Coons (1950) to study leader behavior in a variety of situations. However, Halpin and Winer (1957) identified Initiating Structure and Consideration as fundamental dimensions of leader behavior through a factor analysis of the responses from 300 aircraft crew members.

The LBDQ contains 15 items related to the Consideration dimension and 15 items related to Initiating Structure dimension. The items for each dimension are listed in Appendix B. Halpin (1966) stated that the estimated reliabilities, corrected by the Spearman-Brown formula, for each factor are .93 and .86 respectively. Using Cronbach's alpha coefficient, the estimated reliabilities reported in Table 6 are .94 and .82 respectively.

The LBDQ is described by Halpin (1966) as being composed of a series of short, descriptive statements of ways in which leaders behave.

For the present study, teachers described the frequency with which a principal engages in each form of behavior by checking one of the following five adverbs: always, often, occasionally, seldom, or never. Each item will be scored on a scale from 5 to 1.

Least Preferred Co-worker Questionnaire (LPC). The LPC was developed from Fiedler's (1964) findings regarding the relationships between therapists and patients. He discovered that effective psychotherapists perceive their patients to be more like themselves than did reputedly poor therapists. From these findings, Fiedler (1964) postulated that an individual who perceives another person as similar tends to feel psychologically close, accepting, and permissive toward him. According to McKauge (1970), the search for a means of assessing a leader's attitude toward his co-workers resulted in the LPC questionnaire.

The LPC score was obtained by asking each principal to think of all persons with whom he has ever worked, and then to describe the one person in his life with whom he has found it most difficult to work. This description was made on a 16 item bipolar eight point adjective checklist. The 16 items are listed in Appendix A and include such adjectives as pleasant-unpleasant, friendly-unfriendly, rejecting-accepting. The LPC score is obtained by simple summing of the item scores on the scale sheet.

Fiedler (1967) reported a split-half reliability correlations ranging from .85 to .95 for a 20 item form. Using alpha coefficients with the present sample on the 16 item form, the estimated reliability of .94 is shown in Table 6.

Situation Description Questionnaire (SDQ). As previously mentioned, the SDQ was used to operationalize the climate factors of innovativeness and supportiveness. The original instrument as developed by Hill, Haynes, and Baumgartel, (1972) consisted of 30 items with 15 for each of the two factors. These items were based on both the theoretical literature and interviews with business executives.

Adair (1970) reported that the correlation of the SDQ scale scores of 43 matched pairs of industrial managers and their subordinates is very high at .87. In addition, the managers' mean scale score is significantly higher ($p < .001$) than the subordinates' matched mean score. He concluded that the findings are what one would expect from a reliable and valid measure of organizational climate.

To modify the SDQ for use in the public schools and yet preserve the content, 20 of the original items were reworded by replacing those words pertaining to an industrial work situation with words indicating an educational work situation. For example, "school district" has been substituted for "company" and "industry."

Following a procedure similar to that of the original developers the SDQ was administered as a self-report form. The respondents were asked to give their perceptions and observations about the school district. The items followed, each with a four choice Likert-type response. The categories were assigned arbitrary values of 1 to 4.

Because of the slight revision and deletion of items from the industrial form, it was necessary to establish the instrument for use in the educational setting. Consequently, the final SDQ was cross-validated to insure that the items and subscales had adequate reliability. Changes in the items were made on the basis of item statistics from the Summer, 1973 pilot data.

The final instrument was comprised of the 12 items listed in Table 4. Each subscale had six items. The means were near the middle of the response scale; the standard deviations indicate adequate variability; and high correlations with the subscale resulted. In addition, the alpha levels were .69 for innovativeness and .83 for supportiveness. These statistics and the original theoretical foundations support the conclusion that the SDQ is a reliable and valid instrument.

Effectiveness Measures. The decision to develop effectiveness measures using a combination of research techniques was based on four observations. First, it is particularly important to have adequate measures of the criterion variables. Second, a review of the literature failed to produce suitable measures. Third, a combination of methods will serve to validate the overall results. Fourth, the measures should have a firm foundation in the theoretical model. Consequently, agreement-disagreement items, open-ended written questions, telephone interviews, personal interviews with scale-type and funnel-type questions were used. The personal and organizational effectiveness measures are described in the following paragraphs.

Principal Effectiveness. Two basic types of effectiveness were delineated--personal and outcome. Basically, the personal criteria include perceptual evaluations or ratings of an administrator's performance, while the outcome criteria include changes in the types or amounts of the organizational outcomes.

1. Teachers' perceptions of principal effectiveness and Subordinates' perceptions of principal effectiveness. The same six items were used by each group, but indicated by the names result in two measures of "perceived effectiveness."

2. Organizational effectiveness. A synthesis of the following four dimensions comprised this measure: stability, integration, voluntarism, and achievement. This was operationalized with open-ended mail questionnaire to the teachers and the principals. These subjects were simply asked to list recent programs that have been started or maintained (a) to increase interpersonal relations and communications among the school's members, (b) to improve morale of the staff and student members, and (c) to raise student achievement and to decrease the student drop-out rate.

"Personal effectiveness" as previously defined in the theoretical model is the level of positive or negative sentiment among his primary reference groups. Sentiment is further defined as the positive or

TABLE 4

Means, Standard Deviations, and Correlations
with Subscale for the SDQ Items
(N=1082)

Item	Mean	S.D.	r-Subscale
Subscale 1 - Innovativeness			
1. Does your school district have a systematic scheme for the selection and promotion of personnel in the system?	2.03	1.03	.63
3. Does your school district make use of cost/benefit analysis or other advanced techniques in making financial and budgetary decisions?	2.60	1.05	.64
5. Does your school district have any organized program for the training and development of its administrators, group leaders, and teachers?	2.17	1.12	.70
6. Does your school district have a functioning appraisal system or performance evaluation procedure to be used in connection with personnel decisions?	2.89	.81	.53
7. Has your school district introduced any modern techniques of predicting student achievement?	2.19	1.02	.63
9. Does your school district have specialized research and development (R&D) groups working on new methods, long-range planning, or policy?	2.38	1.07	.62

TABLE 4 Continued

Item	Mean	S.D.	r-Subscale
Subscale 2 - Supportiveness			
2. How free and open is the interpersonal communications among administrators/teachers in your school district?	2.88	.80	.74
4. To what extent do administrators/teachers at various levels in your school district participate in decisions which affect them?	2.74	.80	.73
8. To what extent do you think that top administrators are considerate of the feelings of people in your school district?	2.90	.90	.76
10. In general, does your school district stimulate and approve of innovation and alternative programming?	3.00	.89	.68
11. How would you characterize the climate of interpersonal trust among perpersonnel in your school district?	2.47	.78	.76
12. To what extent do the teaching, supervisory, administrative personnel have confidence in the technical competence and business judgment of the top administration?	2.46	.80	.76

negative evaluations of the principal globally, as a decision-maker and as a group leader.

The measures of personal effectiveness consisted of six items for the Subordinate or Teacher Perceptions of Effectiveness and five items for Superordinate Perceptions of Effectiveness. The items and statistical indicators are given in Table 5.

The items primarily were developed from Wofford's (1971) empirical findings. He found five managerial behavior dimensions that were related to production and morale. A description of each factor and the item used to measure personal effectiveness follow. Each item was preceded by the statement, "How effective is the principal in. . . ."

1. Procedural Clarity and Order. This refers to the professional administrator who is thorough, organized, and orderly. The item was, "establishing order and appropriate procedures which promote school achievement?"

2. Recognition. This is associated with an administrator seeking personal recognition for himself. The item was, "acquiring personal recognition for himself?" This item was not included in superordinate effectiveness scale.

3. Interpersonal Relations. This relates to a principal as being friendly, warm, and informal. Therefore, the measure was, "developing friendly, warm, and informal relationships with the teacher?"

4. Goal Setting. Wofford referred to this as dynamic achievement where the administrator sets specific goals and performance measures. The item, "setting specific goals and performance measures for the teachers?" was used to measure this factor.

5. Decision-Making Independence. This relates to the manager who is able to make decisions as they are needed within the building without undue dependence on the teachers or central office administrators. The item was, "maintaining independence from subordinates and superiors in exercising the responsibilities of the principalship (He is his own man.)?"

6. Global. This alludes to the overall perceptions of the reference group members. The item was, "the overall performance of fulfilling the position's responsibilities?"

These six questions were combined and administered to teachers as self-report forms. The teachers read: "How effective is the principal in. . . ." The items followed, each with a six category, Likert-type response varying from "Ineffective" to "Very effective." The categories were assigned ascending values of one to six. The values of the six items were summed to produce the "Total Perceived Subordinate Effectiveness" measure.

TABLE 5

Means, Standard Deviations, and Correlations With Subscale for the Perceived Effectiveness Questionnaire Items (N=1082)

Item	Mean	S.D.	r-Subscale
Subscale 1--Teacher Perceptions (N=1082)			
1. establishing order and appropriate procedures which promote school achievement?	4.31	1.48	.83
2. acquiring personal recognition for himself?	3.69	1.25	.30
3. developing friendly, warm, and informal relationships with the teacher?	4.31	1.61	.72
4. setting specific goals and performance measures for the teachers?	3.75	1.40	.74
5. maintaining independence from subordinates and superiors in exercising the responsibilities of the principalship (He is his own man.)?	3.93	1.55	.74
6. the overall performance of fulfilling the position's responsibilities?	4.43	1.51	.88

TABLE 5 Continued

Item	Mean	S.D.	r-Subscale
Subscale 2--Superordinate Perceptions (N-183)			
1. establishing order and appropriate procedures which promote school achievement.	3.24	1.50	.74
2. developing friendly, warm, and informal relationships with the teacher?	3.33	1.44	.56
3. setting specific goals and performance measures for the teachers?	3.19	1.46	.68
4. maintaining independence from subordinates and superiors in exercising the responsibilities of the principalship (He is his own man.)?	3.31	1.46	.66
5. the overall performance of fulfilling the position's responsibilities?	3.24	1.57	.81

The superordinate measure was administered using the sociometric, fixed alternative interview schedule found in Appendix C. A central office administrator was asked to select from the list of principals those individuals that he perceived (a) as most effective and (b) as most ineffective. The principals selected as most effective on an item were assigned a value of five while the most ineffective were assigned a one. Those not mentioned were given a value of three. The five item values were summed for each principal. The result was the "Perceived Superordinate Effectiveness" level.

The item statistics reported in Table 5 are indicative of good research instruments. The means are near the conceptual median of four for the teacher perceptions and three for superordinate perceptions. The standard deviations in excess of 1.0 for adequate variance while the internal correlations are reasonably high. This is supported by the alpha levels, as estimates for reliability, of .80 and .73 which are reported in Table 6.

"Organizational effectiveness," as previously conceptualized in the theoretical model, consists of stability, integration, voluntarism, and achievement dimensions. A two step procedure was used to operationalize these dimensions on a frequency by teacher basis.

The first step was an open-end item on the mail questionnaire to the principals and their teachers. These subjects were simply asked to list recent programs that have been started or maintained in relation to each organizational effectiveness dimension. The stem or introductory question was, "What new programs or procedures have been planned or introduced during this school year. . . ." The items by dimension were the following: (a) To develop new curricula or to change the instructional methods? (stability); (b) To increase the interpersonal relations and communications or to control internal problems among the student body, staff, and administration? (integration); (c) To improve faculty morale and satisfaction? (voluntarism); (d) To decrease student discipline problems or dropout rate? and To raise student achievement? (Achievement).

The responses were content analyzed for the number of different programs under each dimension. Apparent duplications were deleted and a list of new programs by dimension compiled.

After returning this list to the principal, the second step was a telephone interview with the principal to cross-validate the types and frequency of each program that he has begun or continued during the past school year. This interview guide is found in Appendix D. Essentially, each principal was asked: (a) Does the list include all of the new programs? If not, what are the others? (b) Are any of the items redundant?

To minimize the bias introduced by a differing number of responses for each building, an "Index for Organization Effectiveness" was calculated. This was accomplished by taking the number of new programs started and maintained and dividing by the number of teacher responses. Admittedly, this was rather crude measure, but it is maintained that those principals making the most attempts to improve the stability,

TABLE 6

Average Subscale Means, Standard Deviations, and Alpha Coefficients for the Present Sample

Measures and Subscales	N	Number Items	Conceptual Mean	Average Item Mean	Average Item S.D.	Alpha Level
EWCS Total	234	36	3.00	3.43	.73	
PPCD		6	3.00	4.20	.57	.73
CD		6	3.00	3.53	.84	.78
TWP		6	3.00	3.37	.61	.77
CS		6	3.00	3.05	.77	.79
WSR		6	3.00	2.41	.90	.84
SC		6	3.00	3.99	.61	.72
LPC	234	16	4.50	4.00	1.96	.94
Satisfaction	172	1	3.00	4.11	.87	
LBDQ Total	1105	30	2.00	2.69	.99	
CON		15	2.00	2.77	.99	.94
IS		15	2.00	2.61	.99	.82
Climate Total	1105	12	2.50	2.56	.93	
INN		6	2.50	2.38	1.02	.69
SUP		6	2.50	2.74	.83	.83
Perceived Effectiveness						
SUB	1105	6	3.50	4.07	1.47	.80
SUPER	183	5	3.00	3.26	1.49	.73
Self	172	1	3.00	3.72	.49	

integration, voluntarism, and achievement variables will organizationally be more effective.

Preferred Characteristics and Traits by Superordinates

In the interviews with the 41 superordinates, they were first asked to delineate the characteristics and skills that they perceived as being relatively more important for building principals. A second question related to situations that might influence their list of desired characteristics. These were devised to act as a funnel interview type for superordinate effectiveness items. In other words, the interviews started with broad questions and narrowed to focus on the superordinate's sentiment toward the principals.

The specified questions are the following: (a) If you were seeking a new building principal, what characteristics and skills would you want that person to have? (b) How would differing situational factors such as those currently characteristics listed above?

Content analysis was used to code and quantify their responses. The notes taken during the interview were categorized by theme or the assertion made by the respondent about the interview question.

The categories developed for the first item regarding leader traits as follows.

1. Interpersonal skills. Interpersonal skills are the ability to establish rapport, communicate and work effectively with members of the school environment. The ability to communicate with school clientele, to understand the needs of the students, and to work cooperatively with the staff are examples of interpersonal skills.

2. Managerial skills. Managerial skills are skills which are needed in order to conduct the administrative and instructional programs of the school. For example, a principal must be able to evaluate, observe, and coordinate personnel and programs in his school. He must also display leadership in initiating and facilitating the programs.

3. Personal characteristics. Personal characteristics are the specific behavioral, emotional or physical traits of the principal. Patience, adaptability, and loyalty are examples of personal characteristics.

4. Experience. Experience is the previous work, academic endeavors or relationships that are relevant to the principalship. Examples of experience in these areas are teaching experience, an acquired master's degree, or a background in administrative work.

5. Knowledge and intellectual skills. Knowledge and intellectual skills are an acquaintance, interest, and understanding of the

educational-administrative field and the ability to reflect and speculate about it. Contribution of educational ideas and keeping abreast of current trends and issues in education are examples of these skills.

6. Other. This category is devised for responses that are irrelevant to the investigation or responses too general to be categorized.

The responses about situations from the second questions were placed into the following categories.

1. Socio-economic status. The socio-economic status refers to the level of affluency or poverty in the district and the social status of the clientele.

2. Community location, organizations, and orientation. This category contains responses referring to the locale of the community, the religious, military, or political organizations established, and the disposition of the community—conservative, liberal, open, closed.

3. Size, structure, and personnel. Size, structure, and personnel is the size and population of the building, the orientation of the programs and the characteristics of the staff.

4. Race. Race refers to the existence of minority groups and the need for integration.

5. No effect. No effect means that the situational factors have little influence on the characteristice or skills the superintendent perceives as being important in building principals.

6. Other. This category was devised for responses which were irrelevant to the question.

An estimate of reliability was calculated using the number of response assignments on which two independent coders agreed divided by the sum of all responses coded. The two coder reliability estimates were .86 and .88 for traits and situations respectively.

Instrumentation Summary

All of the instruments have a strong foundation in the appropriate theoretical formulations. A reasonable contention would be that the measures have theoretical or construct validity. Kerlinger (1973) asserted that the concept of construct validity was a significant advance because it united psychometric and theoretical notions. In addition the data presented in Table 6 support the contention of adequate variability and reliability of the measures. Therefore, it is maintained that the measures were valid and reliable.

Data Collection Procedures

The first method of data collection was a mail questionnaire to the principals and the teachers. The principal questionnaire was comprised of the EWCS, the LPC, and the open-ended organizational effectiveness items. The teacher questionnaire was constituted of the SDQ, the LBDQ, the PEQ, and organizational effectiveness items. The instruments were mailed to each subject in a single envelope along with a stamped, addressed envelope for returning the completed questionnaires. Two follow-up mailings spaced two weeks apart to nonrespondents with additional encouragement to reply were made if necessary.

To maximize probability of a large response, special steps in the questionnaire construction were taken. The cover letter or informed consent statement was designed to establish rapport by describing the research and level of participation, by indicating that the responses were confidential and would be used for research purposes only, and by noting that a summary of the results would be sent upon completion of the study. In addition, the instruments sent to the teachers were completely anonymous. Optimism in expecting a large percent of responses using the above procedure is supported by Kish (1965) in one of his conclusions about the use of mail questionnaires, "three of four mailings will often raise the response over 80 or 90 percent (P.539)." This conclusion was reached with regard to mail surveys of literate populations. Kish reached with regard to mail surveys of literate populations. Kish also cited evidence indicating that the probability of eliciting high responses is much higher if the population sampled is one of professional people.

These procedures were completed in January, 1974. However, to measure Self-Effectiveness and Job Satisfaction of the principals the short questionnaire is found in Appendix E was used. This procedure was completed in April, 1974.

The second data collection procedure was the telephone interview with each of the principals. As previously mentioned, this interview schedule can be found in Appendix D.

The third procedure was the personal interview with the principals' immediate superiors. This included the funnel itmes to focus the respondents' attention on principal characteristics and school situations followed by the scale items to express degrees of sentiment toward effectiveness of each principal. Since the evaluative data that were being requested could potentially be very sensitive, the personal interviews were necessary. Kerlinger (1973) observed that information of a more difficult nature is usually better elicited through a direct personal interview.

Finally, to alleviate possible interviewer bias, standard probe items were developed for the open-ended items. In addition, the three interviewers practiced the procedures with voluntee subjects until uniformity in the interview procedures was developed.

Data Analysis Procedures

Hypothesis One

Three procedures were used to test this hypothesis. First, the Pearson product-moment correlation coefficients (r) were calculated. These simply gave a set of indices of the directions and magnitudes of relation between all of the variables and between each independent and each criterion variable in particular.

The second procedure was simple linear regression which is a notion similar to correlation. This is simply predicting the criterion score from the independent variable score using the correlation coefficient as a basis.

The third procedure was simple curvilinear regression analysis. This is essentially the same as simple linear regression except that the independent variable was squared before being entered into the regression equation.

Hypothesis Two

To test the second hypothesis, linear combinations of the demographic, EWCS, LBDQ, LPC, and SDQ variables which maximized the prediction of personal and organizational effectiveness were determined with a multiple regression procedure. As suggested by Kerlinger (1973), the variables were entered into the equation in congruence with the theoretical model. The mediating variables were entered first with the school demographic variables entering first followed by the climate variables. The EWCS, LBDQ, and LPC entered next and the leader demographic variables were last.

To facilitate interpretation of each predictor variable's importance and the significance of each equation, several statistical indices are reported. They include the following: the standardized regression coefficient or beta weight, the correlation of the predictor with the criterion, an *F* ratio to indicate if the beta weight is significant, R^2 or the multiple correlation coefficient squared as an estimate of the proportion of variance accounted for by the variables, and the *F* ratio to test the significance of the regression equation.

Hypothesis Three

A multiple discriminant analysis procedure was performed to test hypothesis three. This procedure determined which linear combination of variables maximized the discrimination between and among the principal effectiveness groups in varying organizational climates.

The principals were assigned to high or low effectiveness groups based on median scores for each type of effectiveness. Further subgroupings were made based on the median scores of the SDQ subscales. The procedure was used to calculate scaled weights of each variable for building a quasi-factor to describe the different groups. Predicted group classifications and significance testing for the discriminant functions were then made.

The reason for using this technique is based on Tatsuoka's (1970) rationale. He has proposed that when comparing groups using many variables, the problem is essentially that interrelations and overlapping of information between variables may affect the interpretation between groups on any particular variable. As the number of variables increases, the difficulty of interpreting differences between two or more groups on each variable taken singly will become more serious. An alternative way to describe group differences is to construct a linear combination, for example a weighted sum, of the set of variables that will maximally differentiate among the groups in question. The groups are ranked in terms of the linear combination which is essentially a new, transformed variable. This enables the investigator to examine the relative weights assigned to the different variables in forming the linear combination as well as to determine how much or little each factor contributes, and in which direction, to the differentiation between the groups.

Related Findings

A 2x2x2 factorial analysis of variance procedure was used for further data analysis. As noted by Winer (1971), factorial designs permit the evaluation of the combined, simultaneous effects of two or more experimental variables. This provided for the interpretation of main effects and interaction effects.

The principals were divided by median scores into more effective and less effective groups. These two groups divided into high and low groups on innovativeness climate to yield four groups. Finally, these four groups were divided into high and low supportiveness climate to produce eight groups. The consequence of this was the combination of both climate types with the effectiveness criterion.

Findings

The underlying statistics for the analyses are summarized in Table 7 and Table 8. Table 7 is comprised of an inclusive list of the variables used in the study. To expedite the construction of future statistical tables, a series of standard abbreviations is presented in the second column. The last two columns consist of the variable means and standard deviations for the sample as they were used in the data analysis procedures. It should be noted that the 41 variables were constituted by eight mediating or situational measures, 12 independent or leader trait indicators, and 21 dependent, criterion, or effectiveness measures.

The correlation matrix for the 41 variables is presented in Table 8. The mediating and independent variables, with a few exceptions, are not highly correlated. Of the 160 correlations among 20 variables, 44 (27.5%) were significantly related ($r > .15$, df = 163).

With these statistics as a background the next portions of this report will be organized in the sequence of hypothesis testing from one through three. In addition, hypothesis two will have portions for each type of total effectiveness and each variable comprising the total. The final portion of the findings section will summarize the relationships among the effectiveness variables and the interview data regarding leader traits and situations judged to be important by district level administrators.

Hypothesis One

Tables 9, 10, 11, 12, and 13 contain the data summaries for testing the first hypothesis that significant linear and quadratic relationships exist between each independent and mediating variable and each type of total effectiveness. The tables are discussed separately in the following paragraphs.

The simple correlational, linear and curvilinear relationships between each predictor variable and principals' perceived effectiveness by teachers are presented in Table 9. The climate measures of innovativeness and supportiveness, the EWCS subscale competitiveness desirability, and both LBDQ subscales were poritively correlated with high teacher perceptions of principal effectiveness. Conversely, the least preferred co-worker and experience in position were negatively correlated with this criterion. These correlations were supported by the significant linear regression coefficients as tested by the F ratio in the last column ($F_{.95} = 3.90$ and $F_{.99} = 6.79$, df = 1,163). With the exception of principals per district, there were no significant quadratic relationships. However, principals in smaller and larger districts were perceived as more effective than principals in medium sized districts.

The linear and polynomial relationships for principals' perceived effectiveness by district level administrators are summariced in Table 10. As with teacher perceptions, several significant relationships were

TABLE 7

Means and Standard Deviations for All Variables
Used in the Correlational, Regression, and
Discriminant Analyses (N=165)

Variable Type and Name	Abb.	Items Per Var.	Mean($\bar{X}$)	SD
I. Mediating--Situation				
A. School Characteristics				
1. Teachers Per Principal	TPRM		29.21	20.85
2. Pupils Per Teacher	PTRM		17.97	1.56
3. Criteria of Quality	COQM		69.94	3.05
4. Taxable Income Per Pupil	TIPM		6209.29	2147.06
5. Principals Per District	PPDM		1.82	.76
B. Organizational Climate				
6. Administrative Difficulty	ADM	6	2.96	1.41
7. Innovativeness	INNM	6	14.37	2.21
8. Supportiveness	SUPM	6	16.56	2.14
II. Independent--Leader Traits				
A. Work Motivation Attitudes				
9. Potential for Personal Challenge and Development	PPCD	6	25.10	2.18
10. Competitiveness Desirability	CD	6	21.27	3.60
11. Tolerance for Work Pressure	TWP	6	20.28	2.45
12. Conservative Security	CS	6	18.02	3.37
13. Willingness to Seek Reward	WSR	6	14.50	4.02
14. Surround Concern	SC	6	23.78	2.24
B. Leader Perceptions of Others				
15. Least Preferred Co-Worker	LPC	16	62.52	21.78
C. Leader Behavior				
16. Consideration	CON	15	42.15	7.40
17. Initiating Structure	IS	15	39.44	4.82
D. Personal Demographic				
18. Building Level	BL		1.48	.50
19. Position Experience	PEX		7.08	6.25
20. Education Level	EL		2.90	.87

TABLE 7 Continued

Variable Type and Name	Abb.	Items Per Var.	Mean($\bar{X}$)	SD
III. Dependent (Criterion)--Effectiveness				
A. Teacher Perceptions of Effectiveness				
21. Procedures	TPE	1	4.39	.93
22. Recognition	TRE	1	3.74	.75
23. Interpersonal	TIE	1	4.37	1.06
24. Goal Setting	TGSE	1	3.80	.78
25. Decision-Making	TDME	1	3.98	.93
26. Overall	TOE	1	4.50	.95
27. Total	TTE	6	24.78	4.17
B. Superordinate Perceptions of Effectiveness				
28. Procedures	SPE	1	3.24	1.53
29. Interpersonal	SIE	1	3.38	1.45
30. Goal Setting	SGSE	1	3.23	1.47
31. Decision-Making	SOME	1	3.36	1.49
32. Overall	SOE	1	3.27	1.58
33. Total	STE	5	16.48	5.22
C. Organizational Effectiveness				
34. Stability	STOE		.79	.35
35. Integration	INOE		.54	.33
36. Voluntarism	VOOE		.50	.36
37. Achievement-Discipline	ADOE		.54	.35
38. Achievement-Academic	AAOE		.56	.37
39. Total	TIOE		2.62	1.15
D. Individual Perceptions				
40. Self Evaluation of Effectiveness	SEE	1	3.72	.49
41. Satisfaction	SAT	1	4.10	.87

TABLE 8

Correlation Matrix for All Variables

	Mediating							
Variables	1 TPRM	2 PTRM	3 COQM	4 TIPM	5 PPDM	6 ADM	7 INNM	8 SUPM
Mediating								
1-TPRM	1.00	.20*	.03	.16*	.27**	- .32**	.08	- .11
2-PTRM		1.00	- .14	.23**	.52**	.02	.18*	- .13
3-COQM			1.00	.21**	- .03	.00	.13	.13
4-TIPM				1.00	.62**	.06	.50**	.07
5-PPDM					1.00	- .04	.48**	- .22**
6- ADM						1.00	.10	.15**
7-INNM							1.00	.42**
8-SUPM								1.00
Independent								
9-PPCD	.19*	.08	- .06	.07	.00	- .03	- .02	.00
10- CD	.27**	.11	- .09	.10	.12	- .05	.08	.00
11- TWP	.12	.05	.05	.12	.08	- .14	.06	- .05
12- CS	- .22**	- .12	- .05	- .16*	- .18*	.14	- .09	- .01
13- WSR	.13	.01	- .11	.06	.07	- .14	.01	- .04
14- SC	- .06	.05	.03	.06	- .02	- .02	- .04	.00
15- LPC	.00	- .13	.07	- .13	- .07	- .08	- .18*	- .14
16- CON	- .19*	- .02	- .01	.02	.01	.19*	.30**	.50**
17- IS	.03	.07	- .04	.03	.11	.05	.25**	.25**
18- BL	.65**	.05	- .04	.00	.11	- .37**	- .07	.14
19- PEX	- .13	- .07	.16*	- .05	- .12	.06	- .14	.04
20- EL	.14	.04	.22**	.41**	.25**	.07	.28**	.08

TABLE 8 Continued

Mediating

Variables	1 TPRM	2 PTRM	3 COQM	4 TIPM	5 PPDM	6 ADM	7 INNM	8 SUPM
Criterion								
21- TPE	.06	.03	- .04	.08	.11	.12	.28**	.38**
22- TRE	.13	.18*	- .09	.10	.14	.11	.05	- .01
23- TIE	- .19*	- .01	- .02	- .04	.00	.16*	.21**	.42**
24-TGSE	.00	.05	.01	.17*	.17*	.16*	.31**	.30**
25-TDME	.10	.10	- .11	.00	.10	.00	.14	.22**
26- TOE	.01	.02	- .05	- .01	.06	.09	.24**	.32**
27- TTE	.01	.07	- .06	.06	.12	.14	.27**	.37**
28- SPE	.21**	- .01	.00	.04	.04	- .17*	- .02	.06
29- SIE	.03	.07	- .04	.02	.07	.11	.06	.09
30-SGSE	.26**	.00	- .03	.02	- .03	- .08	- .03	- .02
31-SDME	.24**	.03	.00	.04	.01	- .10	.00	- .01
32- SOE	.19*	- .08	- .07	- .09	- .09	- .04	- .08	.01
33- STE	.27**	.00	- .04	.00	.00	- .08	- .02	.04
34-STOE	.03	.07	.02	.11	.05	.11	.24**	.25**
35-INOE	.21**	.15*	.01	.06	.10	- .04	.32**	.29**
36-VOOE	.12	.15*	.03	.11	.13	.06	.15*	.18*
37-ADOE	.20**	.14	.00	.14	.19*	- .12	.25**	.21**
38-AAOE	- .16*	.06	- .13	.06	.08	.12	.27**	.23**
39-TIOE	.12	.13	.00	.12	.14	- .03	.29**	.26**
40- SEE	- .03	- .06	- .06	.16*	.10	- .01	.17*	.07
41- SAT	- .04	.13	.10	.09	.02	.02	.03	.18*

TABLE 8 Continued

Variables	Independent 9 PPCD	 10 CD	 11 TWP	 12 CS	 13 WSR	 14 SC	 15 LPC	 16 CON	 17 IS
Independent									
9-PPCD	1.00	.32**	.31**	- .08	.10	.24**	- .14	.01	- .02
10- CD		1.00	.36**	- .18*	.38**	.02	- .05	.01	.12
11- TWP			1.00	- .12	.28**	.12	.02	- .03	- .07
12- CS				1.00	- .30**	.17*	.20**	.10	.05
13- WSR					1.00	- .14	- .06	- .06	- .07
14- SC						1.00	.06	.06	.03
15- LPC							1.00	- .14	- .13
16- CON								1.00	.50**
17- IS									1.00
18- BL	.04	.26**	.01	- .20**	.13	- .05	.06	- .19*	.13
19- PEX	- .12	- .27**	- .04	.24**	- .20**	.13	.15*	- .08	- .20*
20- EL	.18*	.06	.11	- .02	- .04	.06	- .12	.02	.01
Criterion									
21- TPE	- .01	.12	.00	.06	- .06	.07	- .10	.68**	.68**
22- TRE	.18*	.31**	.14	- .09	- .08	.03	.01	- .07	.22**
23- TIE	.01	- .01	- .04	.10	- .07	.05	- .11	.88**	.40**
24-TGSE	.07	.20**	- .01	- .02	.00	- .07	- .27**	.54**	.64**
25-TDME	.05	.34**	.17*	- .09	.17*	- .06	- .16*	.55**	.56**
26- TOE	.01	.12	- .03	.03	- .05	.00	- .16*	.78**	.65**
27- TTE	.06	.22**	.05	.02	.01	.01	- .17*	.76**	.69**
28- SPE	.00	.17*	- .03	- .17*	.14	- .02	- .13	- .01	.26**
29- SIE	.00	.08	- .05	- .07	- .11	- .04	- .14	.34**	.14

TABLE 8 Continued

Variables	Independent								
	9 PPCD	10 CD	11 TWP	12 CS	13 WSR	14 SC	15 LPC	16 CON	17 IS
Criterion									
30-SGSE	.07	.14	- .03	- .25**	- .04	- .21**	- .22**	- .06	.22**
31-SDME	.11	.21**	.06	- .18*	.09	- .04	.00	.04	.22**
32- SOE	.04	.12	- .01	- .03	.02	- .03	- .13	.08	.22**
33- STE	.07	.21**	- .02	- .20**	.03	- .10	- .18*	.11	.30**
34-STOE	.03	.14	.00	- .20**	.04	- .00	- .16*	.20**	.18*
35-INOE	.10	.10	.08	- .22**	.05	- .12	- .13	.20**	.26**
36-VOOE	.05	.11	.14	- .19*	.03	- .05	- .24**	.25**	.23**
37-ADOE	.18*	.16*	.02	- .19*	.04	- .02	- .18*	25**	.32**
38-AAOE	.08	.02	.06	- .04	.00	- .06	- .08	.25**	.20**
39-TIOE	.08	.12	.10	- .22**	.05	- .09	- .20**	.29**	.32**
40- SEE	- .11	.10	- .02	.02	- .11	.02	.13	- .03	- .01
41- SAT	.05	- .04	.06	.09	- .11	.10	.02	.02	.07

	Independent			Criterion					
	18	19	20	21	22	23	24	25	26
18- BL	1.00	- .18*	- .02	.01	.04	- .14	- .09	.06	- .02
19- PEX		1.00	- .11	- .08	- .10	- .07	- .17*	- .20**	- .12
20- EL			1.00	.06	.11	- .07	.15*	- .07	.04
Criterion									
21- TPE				1.00	.19*	.60**	.67**	.71**	.84**
22- TRE					1.00	- .03	.25**	.27**	.12
23- TIE						1.00	.50**	.51**	.75**
24-TGSE							1.00	.59**	.68**

TABLE 8 Continued

	Independent			Criterion					
Variable	18 BL	19 PEX	20 EL	21 TPE	22 TRE	23 TIE	24 TGSE	25 TDME	26 TOE
Criterion									
25-TDME								1.00	.75**
26- TOE									1.00
27- TTE	-.03	-.16*	.04	.89**	.35**	.76**	.80**	.84**	.92**
28- SPE	.26**	-.15*	.04	.22**	.15*	-.05	.09	.19*	.13
29- SIE	.03	-.03	.01	.24**	.13	.36**	.19*	.16*	.27**
30-SGSE	.33**	-.20**	-.01	.17*	.26**	-.03	.29**	.21**	.19*
31-SDME	.20**	-.10	.02	.23**	.07	.03	.10	.20**	.13
32- SOE	.16*	-.17*	-.06	.25**	.12	.11	.17*	.19*	.22**
33- STE	.28**	-.19*	.00	.32**	.21**	.12	.24**	.28**	.27**
34-STOE	-.03	-.09	.05	.25**	.11	.10	.22**	.28**	.20**
35-INOE	.13	-.19*	.12	.28**	.26**	.16*	.30**	.32**	.28**
36-VOOE	.02	-.08	.17*	.28**	.18*	.18*	.32**	.30**	.30**
37-ADOE	.08	-.11	.15*	.35**	.19*	.19*	.41**	.32**	.38**
38-AAOE	.22**	.04	.03	.30**	.13	.22**	.32**	.29**	.28**
39-TIOE	.01	-.11	.11	.38**	.22**	.22**	.42**	.39**	.37**
40- SEE	-.12	.04	.01	.03	.14	-.01	.07	-.03	.00
41- SAT	-.05	.24**	.17*	.12	.09	.02	.04	.02	.02

	Criterion								
	27 TTE	28 SPE	29 SIE	30 SGSE	31 SDME	32 SOE	33 STE	34 STOE	35 INOE
27- TTE	1.00	.15*	.30**	.22**	.16*	.23**	.31**	.25**	.34**
28- SPE		1.00	.23**	.41**	.50**	.45**	.75**	.19*	.06
29- SIE			1.00	.15*	.12	.45**	.56**	.11	.00

TABLE 8 Continued

Criterion

Variable	27 TIE	28 SPE	29 SIE	30 SGSE	31 SDME	32 SOE	33 STE	34 STOE	35 INOE
Criterion									
30-SGSE				1.00	.30**	.50**	.68**	.11	.21**
31-SDME					1.00	.37**	.66**	.06	.08
32- SOE						1.00	.81**	.08	.07
33- STE							1.00	.16*	.12
34-STOE								1.00	.40**
35-INOE									1.00
36-VOOE	.34**	.07	.08	.20**	.06	.13	.16*	.41**	.56**
37-ADOE	.40**	.09	.03	.22**	.18*	.11	.18*	.32**	.50**
38-AAOE	.34**	.00	.08	- .02	.00	.04	.03	.38**	.39**
39-TIOE	.43**	.10	.07	.22**	.09	.12	.18*	.67**	.75**
40- SEE	.03	- .04	.03	- .01	.06	- .08	- .01	- .06	.06
41- SAT	.06	.06	.11	- .04	.06	.00	.05	- .10	.01

Criterion

Variables	36 VOOE	37 ADOE	38 AAOE	39 TIOE	40 SEE	41 SAT
36-VOOE	1.00	.49**	.41**	.76**	.03	.04
37-ADOE		1.00	.42**	.72**	.07	.04
38-AAOE			1.00	.70**	.05	.02
39-TIOE				1.00	.01	- .01
40- SEE					1.00	.09
41- SAT						1.00

*p < .05(df = 163, Critical Value = .16)
**p < .05(df = 163, Critical Value = .20)

TABLE 9

Predictions of Principals' Perceived Effectiveness by Teachers Using Selected Variables in Simple Polynomial Regression Analyses

Predictor Variable	r	Source	Reg. Coef.	df	MS	F
Taxable Income Per Pupil		Lin.	.00	1	8.67	.49
	.06	Quad.	.00	1	7.40	.42
		Res.		162	17.54	
Teachers Per Principal	.01	Lin.	- .07	1	.60	.03
		Quad.	.00	1	42.88	2.47
		Res.		162	17.37	
Principals Per District	.12	Lin.	-6.30	1	38.92	2.34
		Quad.	1.79	1	120.98	7.27**
		Res.		162	16.65	
Climate 1-Innovativeness	.27**	Lin.	-1.74	1	206.16	12.80**
		Quad.	.07	1	41.69	2.59
		Res.		162	16.11	
Climate 2-Supportiveness	.37**	Lin.	- .01	1	392.26	25.82**
		Quad.	.02	1	3.42	.22
		Res.		162	15.19	
EWCS 1-Pot. Per. Chal. & Dev.	.06	Lin.	-2.74	1	9.85	.56
		Quad.	.05	1	20.82	1.19
		Res.		162	17.45	
EWCS 2-Competiveness Desirability	.22**	Lin.	- .35	1	135.16	8.07**
		Quad.	.01	1	10.31	.62
		Res.		162	16.74	
EWCS 3-Tol. Work Pressure		Lin.	-1.63	1	6.02	.34
	.05	Quad.	.04	1	14.06	.80
		Res.		162	17.51	
EWCS 4-Conservative Security		Lin.	- .45	1	.75	.04
	.02	Quad.	.01	1	6.64	.38
		Res.		162	17.59	

TABLE 9 Continued

Predictor Variable	r	Source	Reg. Coef.	df	MS	F
EWCS 5- Will. Reward	.01	Lin.	- .29	1	.21	.01
		Quad.	.01	1	6.71	.38
		Res.		162	17.59	
EWCS 6- Surround Concern	.01	Lin.	3.76	1	.18	.01
		Quad.	- .08	1	67.02	3.89
		Res.		162	17.22	
LPC Least Pref. Co-Worker	- .17*	Lin.	- .05	1	83.27	4.87*
		Quad.	.00	1	1.43	.08
		Res.		162	17.11	
LBDQ 1- Consider	.76**	Lin.	.25	1	1675.40	230.14**
		Quad.	.00	1	2.66	.36
		Res.		162	7.28	
LBDQ 2- Initiating Structure	.69**	Lin.	.20	1	1349.76	145.60**
		Quad.	.00	1	5.66	.61
		Res.		162	9.27	
Experience in Position	- .16*	Lin.	- .33	1	71.32	4.20*
		Quad.	.01	1	38.38	2.26
		Res.		162	16.96	
Educational Degree Level	.04	Lin.	-1.55	1	3.92	.22
		Quad.	.26	1	9.68	.55
		Res.		162	17.55	
		Total		164		

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

F .95 = 3.90, *df* = 1,163.
F .99 = 6.79, *df* = 1,163.

TABLE 10

Predictions of Principals' Perceived Effectiveness by Superordinates Using Selected Variables in Simple Polynomial Regression Analyses

Predictor Variable	r	Source	Reg. Coef.	df	MS	F
Taxable Income Per Pupil	.00	Lin.	.00	1	.12	.00
		Quad.	.00	1	.55	.02
		Res.		162	27.60	
Teachers Per Principal	.27**	Lin.	.09	1	325.72	12.74**
		Quad.	.00	1	4.71	.18
		Res.		162	25.56	
Principals Per District	.00	Lin.	-1.50	1	.01	.00
		Quad.	.38	1	5.56	.20
		Res.		162	27.57	
Climate 1-Innovativeness	- .02	Lin.	1.21	1	2.34	.08
		Quad.	- .04	1	13.27	.48
		Res.		162	27.50	
Climate 2-Supportiveness	.04	Lin.	1.03	1	6.98	.25
		Quad.	- .02	1	5.72	.21
		Res.		162	27.52	
EWCS 1-Pot. Per. Chal. & Dev.	.07	Lin.	- .49	1	20.50	.75
		Quad.	.01	1	1.07	.04
		Res.		162	27.47	
EWCS 2-Competiveness Desirability	.21**	Lin.	.42	1	193.47	7.33*
		Quad.	.00	1	.42	.02
		Res.		162	26.40	
EWCS 3-Tol. Work Pressure	- .02	Lin.	.45	1	1.01	.04
		Quad.	- .01	1	1.12	.04
		Res.		162	27.59	
EWCS 4-Conservative Security	- .20**	Lin.	1.24	1	177.94	6.83**
		Quad.	- .04	1	72.08	2.76
		Res.		162	26.06	

TABLE 10 Continued

Predictor Variable	r	Source	Reg. Coef.	df	MS	F
EWCS 5-	.03	Lin.	.17	1	4.79	.17
Will.		Quad.	.00	1	1.24	.04
Reward		Res.		162	27.56	
EWCS 6-	- .10	Lin.	- .60	1	42.63	1.56
Surround		Quad.	.01	1	.67	.02
Concern		Res.		162	27.33	
LPC	- .18*	Lin.	- .12	1	140.15	5.27*
Least Pref.		Quad.	.00	1	24.24	.91
Co-Worker		Res.		162	26.59	
LBDQ 1-	.11	Lin.	.84	1	53.73	1.99
Consideration		Quad.	- .01	1	48.10	1.78
		Res.		162	26.97	
LBDQ 2-	.30**	Lin.	.22	1	411.81	16.43**
Initiating		Quad.	.00	1	.39	.02
Structure		Res.		162	25.06	
Experience	- .19*	Lin.	- .32	1	157.64	5.95*
in Position		Quad.	.01	1	19.75	.75
		Res.		162	26.50	
Educational	.00	Lin.	-4.56	1	.00	.00
Degree		Quad.	.69	1	67.69	2.49
Level		Res.		162	27.18	
		Total		164		

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

$F_{.95} = 3.90$, df = 1,163.
$F_{.99} = 6.79$, df = 1,163.

found. The significant positive variable relationships with superordinate effectiveness included the following: teachers per principal, EWCS competitiveness desirability, and initiating structure. Conversely, the negative relationships included EWCS conservative security, least preferred co-worker, and experience. No significant quadratic relationships were found for superordinate's perceptions of principal effectiveness.

Continuing with the testing of hypothesis one, the relationships for organizational effectiveness constitute Table 11. Significant positive correlations with this criterion indluded the following: the climate dimensions of supportiveness and innovativeness as well as both LBDQ measures of consideration and initiating structure. The significant curvilinear relations were found for the teachers-principal ratio and the supportiveness variables. With both variables, the mid-ranges of the continua were higher with the extremes lower.

Table 12 contains the data summary for the relationships with the principals' perceptions of their effectiveness or goal attainment. Only two of the situational variables had significant correlations and F ratios. These were taxable income per pupil or wealth and innovativeness climate. Referring back to Table 8, these variables are highly correlated at .50 with each other. This might suggest that principals judge their own effectiveness by the district's innovative thrusts and the wealth to buy such developments.

The relationships between satisfaction as the criterion variable and independent and dependent variables comprise Table 13. Supportiveness climate and, contrary to earlier findings, experience in position and educational degree level were positively related to job satisfaction of principals. The two significant quadratic relationships were with taxable income per pupil and LBDQ consideration. All of these variables suggest a personal dimension to satisfaction. The length of time in a job and education level probably are considered personal attainments. District wealth, supportive climate, and personal consideration (in the middle range) are variables that provide a pleasant working environment for administrators.

Summary for Hypothesis One. The significant relationships are designated in Table 14. Overall, 52 significant relationships from a possible 240 were found. However, only five of these were curvilinear with the remaining 47 being linear correlations and regression values. With only five out of a possible 80 curvilinear relationships being significant at the 5% level, most of these could have occurred by chance. Consequently, the curvilinear portion of the hypothesis was not sup supported, but partial support was found for the linear portion of the hypothesis.

Reading down the five columns, an additional observation is that from two to eight independent variables were significant predictors of the five effectiveness criteria. Subordinate effectiveness was highest with eight predictors followed by organizational and superordinate effectiveness with seven and six predictors respectively. Satisfaction

TABLE 11

Predictions of Principals' Organizational Effectiveness Using Selected Variables in Simple Polynomial Regression Analyses

Predictor Variable	r	Source	Reg. Coef.	df	MS	F
Taxable	.12	Lin.	.00	1	3.31	2.55
Income		Quad.	.00	1	1.95	1.50
Per Pupil		Res.		162	1.30	
Teachers	.13	Lin.	- .02	1	3.27	2.57
Per		Quad.	.00	1	7.36	5.80*
Principal		Res.		162	1.27	
Principals	.14	Lin.	.23	1	4.27	3.26
Per		Quad.	- .01	1	.00	.00
District		Res.		162	1.31	
Climate 1-Innovativeness	.29**	Lin.	.07	1	18.51	15.05**
		Quad.	.00	1	.06	.05
		Res.		162	1.23	
Climate 2-Supportiveness	.26**	Lin.	- .86	1 1	15.31	12.65**
		Quad.	.03	1 1	6.46	5.34**
		Res.		162	1.21	
EWCS 1-	.08	Lin.	.51	1 1	1.36	1.02
Pot. Per.		Quad.	.00	1 1	.57	.43
Chal. & Dev.		Res.		162	1.33	
EWCS 2-	.12	Lin.	.01	1 1	3.26	2.47
Competiveness		Quad.	.00	1 1	.02	.02
Desirability		Res.		162	1.32	
EWCS 3-	.10	Lin.	- .46	1 1	2.35	1.79
Tol. Work		Quad.	.01	1 1	1.28	.98
Pressure		Res.		162	1.31	
EWCS 4-	- .22**	Lin.	- .09	1 1	10.33	8.13**
Conservative		Quad.	.01	1 1	.01	.01
Security		Res.		162	1.27	

TABLE 11 Continued

Predictor Variable	r	Source	Reg. Coef.	df	MS	F
EWCS 5-	.05	Lin.	- .03	1	.48	.36
Will.		Quad.	.00	1	.18	.14
Reward		Res.		162	1.33	
EWCS 6-		Lin.	.62	1	1.83	1.40
Surround	- .09	Quad.	- .01	1	2.12	1.62
Concern		Res.		162	1.31	
LPC	- .20**	Lin.	- .02	1	8.82	6.84**
Least Pref.		Quad.		1	.39	.30
Co-Worker		Res.		162	1.29	
LBDQ 1-		Lin.	- .02	1	18.35	15.04**
Consideration	.29**	Quad.		1	.32	.26
		Res.		162	1.22	
LBDQ 2-	.32**	Lin.	.23	1	21.99	18.64**
Initiating		Quad.		1	3.63	3.08
Structure		Res.		162	1.18	
Experience	- .11	Lin.	- .10	1	2.65	2.04
in Position		Quad.	.00	1	4.56	3.51
		Res.		162	1.30	
Educational	.11	Lin.	- .70	1	2.68	2.04
Degree		Quad.	.13	1	2.34	1.79
Level		Res.		162		
		Total		164	1.31	

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

$F_{.95} = 3.90$, $df = 1,163$.
$F_{.99} = 6.79$, $df = 1,163$.

TABLE 12

Predictions of Principals' Self Evaluation of Effectiveness Using Selected Variables in Simple Polynomial Regression Analyses

Predictor Variable	r	Source	Reg. Coef.	df	MS	F
Taxable Income Per Pupil	.16*	Lin.	.00	1	1.03	4.48*
		Quad.	.00	1	.11	.48
		Res.		162	.23	
Teachers Per Principal	- .03	Lin.	.01	1	.04	.17
		Quad.	.00	1	.36	1.50
		Res.		162	.24	
Principals Per District	.09	Lin.	- .23	1	.36	1.50
		Quad.	.07	1	.21	.88
		Res.		162	.24	
Climate 1-Innovativeness	.17*	Lin.	.02	1	1.12	4.87*
		Quad.	.00	1	.00	.00
		Res.		162	.23	
Climate 2-Supportiveness	.07	Lin.	- .13	1	.17	.71
		Quad.	.00	1	.15	.62
		Res.		162	.24	
EWCS 1-Pot. Per. Chal. & Dev.	- .11	Lin.	.03	1	.49	2.13
		Quad.	.01	1	.01	.04
		Res.		162	.23	
EWCS 2-Competiveness Desirability	.10	Lin.	.13	1	.36	1.50
		Quad.	.00	1	.38	1.58
		Res.		162	.24	
EWCS 3-Tol. Work Pressure	- .02	Lin.	.40	1	.01	.04
		Quad.	- .01	1	.78	3.25
		Res.		162	.24	
EWCS 4-Conservative Security	.02	Lin.	- .03	1	.01	.04
		Quad.	.00	1	.04	.17
		Res.		162	.24	

TABLE 12 Continued

Predictor Variable	r	Source	Reg. Coef.	df	MS	F
EWCS 5- Will. Reward	- .11	Lin.	.00	1	.49	2.04
		Quad.	.00	1	.01	.04
		Res.		162	.24	
EWCS 6- Surround Concern	.02	Lin.	.31	1	.01	.04
		Quad.	.01	1	.46	1.92
		Res.		162	.24	
LPC Least Pref. Co-Worker	.13	Lin.	.01	1	.62	2.58
		Quad.	.00	1	.03	.12
		Res.		162	.24	
LBDQ 1- Consideration	- .03	Lin.	- .04	1	.04	.17
		Quad.	.00	1	.17	.71
		Res.		162	.24	
LBDQ 2- Initiating Structure	- .01	Lin.	- .07	1	.01	.04
		Quad.	.00	1	.20	.83
		Res.		162	.24	
Experience in Position	.04	Lin.	- .02	1	.06	.25
		Quad.	.00	1	.37	1.54
		Res.		162	.24	
Educational Degree Level	.01	Lin.	.20	1	.00	.00
		Quad.		1	.12	.50
		Res.	- .03	162	.24	
		Total		164		

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

F .95 = 3.90, df = 1,163.
F .99 = 6.79, df = 1,163.

TABLE 13

Predictions of Principals' Job Satisfaction Using Selected Variables in Simple Polynomial Regression Analyses

Predictor Variable	r	Source	Reg. Coef.	df	MS	F
Taxable	.09	Lin.	.00	1	1.06	1.41
Income		Quad.	.00	1	4.19	5.59*
Per Pupil		Res.		162	.75	
Teachers	- .04	Lin.	.00	1	.16	.20
Per		Quad.	.00	1	.11	.14
Principal		Res.		162	.78	
Principals	.02	Lin.	.59	1	.08	.10
Per		Quad.	- .14	1	.79	1.01
District		Res.		162	.78	
Climate 1-	.03	Lin.	.24	1	.11	.14
Innovative-		Quad.	- .01	1	.42	.54
ness		Res.		162	.78	
Climate 2-	.18*	Lin.	- .22	1	3.92	5.23*
Supportive-		Quad.	.01	1	.56	.75
ness		Res.		162	.75	
EWCS 1-	.05	Lin.	- .06	1	.27	.35
Pot. Per.		Quad.	.00	1	.02	.02
Chal. & Dev.		Res.		162	.78	
EWCS 2-	- .04	Lin.	- .10	1	.18	.23
Competiveness		Quad.	.00	1	.21	.27
Desirability		Res.		162	.78	
EWCS 3-	.06	Lin.	.33	1	.51	.66
Tol. Work		Quad.	- .01	1	.45	.58
Pressure		Res.		162	.77	
EWCS 4-	.09	Lin.	.01	1	1.02	1.32
Conservative		Quad.	.00	1	.00	.00
Security		Res.		162	.77	

TABLE 13 Continued

Predictor Variable	*r*	Source	Reg. Coef.	df	MS	*F*
EWCS 5-	- .11	Lin.	- .03	1	1.64	2.13
Will.		Quad.	.00	1	.00	.00
Reward		Res.		162	.77	
EWCS 6-	.10	Lin.	.06	1	1.29	1.68
Surround		Quad.	.00	1	.00	.00
Concern		REs.		162	.77	
LPC	.02	Lin.	.00	1	.06	.08
Least Pref.		Quad.	.00	1	.00	.00
CO-Worker		REs.		162	.78	
LBDQ 1-	.02	Lin.	- .23	1	.05	.07
Consideration		Quad.	.00	1	4.20	5.60*
		Res.		162	.75	
LBDQ 2-	.07	Lin.	- .08	1	.57	.74
Initiating		Quad.	.00	1	.28	.36
Structure		Res.		162	.77	
Experience	.24**	Lin.	.06	1	7.19	9.85**
in Position		Quad.	.00	1	.45	.62
		Res.		162	.73	
Educational	.17*	Lin.	- .15	1	3.73	4.97*
Degree		Quad.	.05	1	.34	.45
Level		Res.		162	.75	

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

F .95 = 3.90, *df* = 1,163.
F .99 = 6.79, *df* = 1,163.

TABLE 14

Summary of the Simple Polynomial Regression Analyses Predicting the Five Criterion Variables Using Selected Predictor Variables

Predictor Variable	SUB	SUPER	ORGAN	SEE	SAT
TIPM					
r				+*	
Lin.				+*	
Quad.					*
TPRM					
r		+**			
Lin.		+**			
Quad.			+*		
PPDM					
r					
Lin.					
Quad.	**				
INNM					
r	+**		+**	+*	+*
Lin.	+**		+**	+*	
Quad.					
SUPM					
r	+**		+**		
Lin.	+**		+**		
Quad.			*		
EWCS 1-PPCD					
r					
Lin.					
Quad.					

TABLE 14 Continued

Predictor Variable	SUB	SUPER	ORGAN	SEE	SAT
EWCS 2-CD					
r	+ *	+**			
Lin.	+**	+**			
Quad.					
EWCS 3-TWP					
r					
Lin.					
Quad.					
EWCS 4-CS					
r		- *	-**		
Lin.		-**	-**		
Quad.					
EWCS 5-WSR					
r					
Lin.					
Quad.					
EWCS 6-SC					
r					
Lin.					
Quad.					
LPC					
r	-*	-*	- *		
Lin.	-*	-*	-**		
Quad.					
LBDQ 1-CON					
r	+**		+**		
Lin.	+**		+**		
Quad.					*

TABLE 14 Continued

Predictor Variable	SUB	SUPER	ORGAN	SEE	SAT
LBDQ 2-IS					
r	+**	+**	+**		
Lin.	+**	+**	+**		
Quad.					
EEX					
r	-*	-*			+**
Lin.	-*	-*			+**
Quad.					
EL					
r					+*
Lin.					+*
Quad.					

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

-Negative relationship.
+Positive relationship.

was predicted by five independent variables while self evaluation of effectiveness was predicted by only two.

Reading across the rows, further findings include the observation that innovativeness climate was positively related to three variables while the least preferred co-worker (LPC) was negatively related to the same criteria. This is a mutually supportive finding with high initiating structure and low LPC being task oriented. Supportiveness climate and consideration were positively related to subordinate effectiveness and organizational effectiveness. Again similar variables, one relating to the principal and one to the situation, predicted the same criterion variables.

Only two of the EWCS motivational subscales were related to effectiveness. Competiveness desirability, an intrinsic factor with a risk component, was positively related to subordinate and superordinate effectiveness.

Finally, the two leader demographic variables of position experience and education that are commonly associated with administrative effectiveness demonstrated interesting relationships. First, experience was negatively related to subordinate and superordinate effectiveness. Second, education level and experience were positively related only to satisfaction. Perhaps these demographic variables, as primary criteria for principal selection, need to be reevaluated in light of these findings.

Hypothesis Two

Hypothesis two postulated that the independent variables of leader style and the mediating variables of organizational climate and district demographic characteristics would be significant predictors of the different effectiveness scores. Tables 15 through 38 presnet the data summaries for these analyses. However, Tables 15 to 22 relate to perceived effectiveness of principals by the teachers or subordinates; Tables 23 to 29 comprise the summaries for perceived effectiveness of principals by superordinates or district level administrators; Tables 30 to 36 are used to present the data related to organization effectiveness; and Table 37 and 38 are comprixed of the data summaries for the principals' self-evaluation of effectiveness and job satisfaction respectively.

The simple correlational relationships, the proportion of variance added at each step, and the beta weight for each variable are listed in the tables. In addition, the Multiple R^2, as an indicator of explained variance, and the F-ratio, as a significance test, are given for each regression equation.

Each table will be discussed separately in the following paragraphs. However, emphasis will be placed on analyses for total effectiveness as the sums of component measures.

Teacher perceptions. The results for the subordinates evaluations of the principals' effectiveness in delineating clear operating

TABLE 15

Stepwise Regression Analysis Summary for Principals' Perceived Procedural Effectiveness by Teachers as the Criterion Variable With all Situational and Leader Trait Factors Being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Principals/District	.11	.01	.05
Teachers/Principal	.06	.00	.22**
Criteria of Quality	-.04	.00	-.05
Pupils/Teacher	.03	.00	-.05
Taxable Income/Pupil	.08	.00	.03
Supportiveness	.38**	.19	.08
Administrative Difficulty	.12	.01	.05
Innovativeness	.28**	.00	-.04
Initiating Structure	.68**	.32	.45**
Consideration	.68**	.11	.45**
Surround Concern	.07	.00	.05
Potential for Personal Challenge and Development	-.01	.00	-.08
Tolerance for Work Pressure	.00	.00	.04
Willingness to Seek Reward	-.06	.00	-.03
Competiveness Desirability	.12	.00	.05
Least Preferred Co-Worker	-.10	.00	.02
Conservative Security	.06	.00	-.01
Building Level	.01	.00	-.08
Position Experience	-.08	.00	.05
Education Level	.06	.00	.00

Overall Regression Equation Indicators   F Ratio = 15.20**   Multiple R^2 = .67
df = 20,144

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*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

procedures are presented in Table 15. The regression equation is significant (F = 13.20, df = 20,144) and R^2 is large with approximately 67% of the variance explained. Although four variables were significantly correlated with procedural effectiveness on two of these, initiating structure and consideration had significant standardized regression weights (betas). However, the teacher-principal ratio, as an indicator of building size, also had a significant positive beta weight. Consequently, principals in larger buildings, high on both LBDQ subscales were perceived to be more effective in developing procedural policy.

Table 16 is comprised of the data summary for subordinates' evaluations of the principals' ability to receive personal recognition for himself. Again the regression equation is significant (F = 2.59, df = 20,144), but R^2 is only .25. The following three beta weights were found to be significant: competitiveness, desirability and initiating structure were positively related while consideration was negatively related to the criterion.

Interpersonal effectiveness of principals as judged by their teachers also had a significant regression equation calculated. These findings are presented in Table 17. The F ratio of 28.42 and the 79% variance explanation are the largest statistics found in this phase of the investigation. While six variables were significantly correlated with interpersonal effectiveness, only the consideration factor of the LBDQ had a significant beta weight. Obviously, the teachers evaluated those principals that they perceived as behaving in a considerate manner as being interpersonally skilled. This probably is not surprising because they conceptually are closely related constructs. However, the complete dominance by this one variable was somewhat unexpected.

Table 18 is constructed from the data germane to predicting principals' goal setting effectiveness as perceived by the teaching staff. The regression equation was significant and the computed R^2 was 5.90. Five leader trait variables were found to be significantly related to this criterion. The two LBDQ subscales and the EWCS competitiveness desirability subscale were positively related with significant beta weights. Conversely, the least preferred co-worker and building level were negatively related to goal setting effectiveness. It should be noted that five significant simple correlations for the situation variables disappeared in the regression equation.

The results for perceived decision-making effectiveness by subordinates, summarized in Table 19, were similar to the above goal setting results. The F ratio of 9.69 was significant and the R^2 was .57. In addition, four positive beta weights were significant--two LBDQ and two EWCS factors.

When the teachers judged the overall effectiveness of their principals, the two LBDQ subscales, initiating structure and consideration, were the dominant predictors. Moreover, the regression equation was significant and approximately 74% of the variance was explained. These data comprise Table 20.

TABLE 16

Stepwise Regression Analysis Summary for Principals' Perceived Personal Recognition Effectiveness by Teachers as the Criterion Variable With All Situational and Leader Trait Factors Being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Pupils/Teacher	.18*	.03	.09
Teachers/Principal	.12	.01	.09
Criteria of Quality	-.09	.00	-.08
Taxable Income/Pupil	.11	.00	.01
Principals/District	.14	.00	.06
Administrative Difficulty	.11	.02	.14
Innovativeness	.05	.00	-.10
Supportiveness	-.01	.00	.10
Competitiveness Desirability	.31**	.07	.22**
Initiating Structure	.23**	.03	.35**
Consideration	-.06	.04	-.28**
Potential for Personal Challenge and Development	.18*	.01	.08
Least Preferred Co-Worker	.01	.01	.11
Tolerance for Work Pressure	.14	.00	.05
Conservative Security	-.09	.00	-.07
Willingness to Seek Reward	.08	.00	-.01
Surround Concern	.03	.00	.01
Building Level	.04	.01	-.15
Education Level	.11	.00	.07
Position Experience	-.11	.00	-.01

Overall Regression Equation Indicators $\underline{F}$ Ratio = 2.59** Multiple R^2 = .25
$\underline{df}$ = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 17

Stepwise Regression Analysis Summary for Principals' Perceived Interpersonal Effectiveness by Teachers as the Criterion Variable With all Situational and Leader Trait Factors Being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Teachers/Principal	- .19*	.04	- .05
Principals/District	- .01	.00	.06
Taxable Income/Pupil	- .04	.00	- .05
Criteria of Quality	- .01	.00	.03
Pupils/Teacher	- .01	.00	.01
Supportiveness	.42**	.20	.01
Administrative Difficulty	.01	.00	.01
Innovativeness	.21**	.00	- .03
Consideration	.88**	.53	.91**
Initiating Structure	.40**	.00	- .06
Willingness to Seek Reward	- .07	.00	- .02
Potential for Personal Challenge and Development	.01	.00	.03
Surround Concern	.05	.00	.01
Conservative Security	.10	.00	.02
Least Preferred Co-Worker	- .11	.00	- .01
Competitiveness Desirability	- .01	.00	- .01
Tolerance for Work Pressure	- .03	.00	.01
Education Level	- .07	.01	- .09
Building Level	- .15*	.00	.07
Position Experience	- .07	.00	.00

Overall Regression Equation Indicators   F Ratio = 28.42**   Multiple R^2 = .79
df = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 18

Stepwise Regression Analysis Summary for Principals' Perceived Goal Setting Effectiveness by Teachers as the Criterion Variable With all Situational and Leader Trait Factors Being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Principals/District	.17*	.03	.10
Taxable Income/Pupil	.17*	.01	.05
Teachers/Principal	.01	.00	.12
Pupils/Teacher	.05	.00	- .07
Criteria of Quality	.01	.00	.02
Supportiveness	.30**	.11	.03
Administrative Difficulty	.16*	.01	.03
Innovativeness	.31**	.00	- .05
Initiating Structure	.64**	.30	.51**
Consideration	.53**	.03	.51**
Least Preferred Co-Worker	- .27**	.02	- .13*
Competitiveness Desirability	.20**	.02	.16*
Surround Concern	- .07	.01	- .11
Potential for Personal Challenge and Development	.06	.00	.02
Willingness to Seek Reward	.00	.00	- .02
Conservative Security	- .01	.00	- .01
Tolerance for Work Pressure	- .01	.00	- .03
Building Level	- .09	.02	- .22**
Education Level	.15*	.00	.06
Position Experience	- .17*	.00	- .01

Overall Regression Equation Indicators: F Ratio = 10.16**   Multiple R^2 = .59
df = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 19

Stepwise Regression Analysis Summary for Principals' Perceived Decision-Making Effectiveness by Teachers as the Criterion Variable With all Situational and Leader Trait Factors Being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Criteria of Quality	- .11	.01	- .04
Teachers/Principal	.10	.01	.16*
Principals/District	.10	.01	.06
Taxable Income/Pupil	- .01	.00	- .03
Pupils/Teacher	.10	.00	.02
Supportiveness	.23**	.09	.01
Innovativeness	.14	.00	- .14
Administrative Difficulty	.00	.00	- .02
Consideration	.55**	.25	.44**
Initiating Structure	.56**	.09	.36**
Competitiveness Desirability	.34**	.06	.22**
Tolerance for Work Pressure	.17*	.01	.14*
Surround Concern	- .06	.01	- .07
Potential for Personal Challenge and Development	.05	.00	- .08
Conservative Security	- .09	.00	- .05
Least Preferred Co-Worker	- .16*	.00	- .06
Willingness to Seek Reward	.17*	.00	.05
Building Level	.06	.00	- .11
Education Level	- .07	.00	- .08
Position Experience	- .20**	.00	- .01

Overall Regression Equation Indicators	F Ratio = 9.69** df = 20,144	Multiple R^2 = .57

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 20

Stepwise Regression Analysis Summary for Principals' Perceived Overall Effectiveness by Teachers as the Criterion Variable With All Situational and Leader Trait Factors Being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Principals/District	.06	.00	- .02
Taxable Income/Pupil	- .01	.00	- .04
Criteria of Quality	- .05	.00	- .02
Pupils/Teacher	.02	.00	- .01
Teachers/Principal	.01	.00	.16
Supportiveness	.32**	.14	- .10
Administrative Difficulty	.09	.00	- .02
Innovativeness	.24**	.00	.00
Consideration	.78**	.50	.69**
Initiating Structure	.65**	.08	.32**
Competiveness Desirability	.12	.00	.08
Surround Concern	.00	.00	- .04
Least Preferred Co-Worker	- .16*	.00	- .05
Conservative Security	.08	.00	.02
Willingness to Seek Reward	- .04	.00	.02
Potential for Personal Challenge and Development	.01	.00	.03
Tolerance for Work Pressure	- .03	.00	- .01
Building Level	- .01	.00	- .05
Position Experience	- .12	.00	.03
Education Level	.04	.00	.03

Overall Regression Equation Indicators F Ratio = 20.04 Multiple R^2 = .74
df = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

Finally, the six items for perceived effectiveness were summed to yield a total perceived effectiveness indicator. The stepwise regression summary for this measure is presented in Table 21. The equation is significant and multiple R^2 is .76. In addition, four variables had significant beta weights. The situational variable, teacher-principal ratio, was significant along with the LBDQ subscales and the EWCS competitiveness desirability factor.

Summary for teacher perceptions of principal effectiveness. The summary for seven the stepwise regression equations is presented in Table 22. The *F* ratios for the seven equations were significant beyond the 1% level. Moreover, the multiple R^2 values ranged from .25 to .79 with all except one being above .50 and three being above .70. The conclusion can be drawn that teachers' perceptions of principal effectiveness was statistically predicted at a high level.

A further finding is that the number of significant predictors for each effectiveness type was relatively small. With 21 independent variables only a few predicted a large portion of the different effectiveness types. Consideration and initiating structure of the LBDQ and competitiveness desirability of the EWCS were significant predictors in seven, six, and four equations respectively. All except consideration on personal recognition were positively related to perceived effectiveness by teachers. Other leader trait variables that were significant on only one measure were EWCS tolerance for work pressure, least preferred co-worker and building level. The last two of these variables were negatively related to goal setting effectiveness. Consequently, task oriented (low LPC and high initiating structure), considerate but competitive secondary principals were the most effective, as perceived by the teachers, in goal setting.

The two climate variables, supportiveness and innovativeness, frequently were significantly correlated with the criterion, but no significant beta weights were found. Referring back to Table 8, it should be noted that these are correlated with the LBDQ consideration scale at .50 and .30 and with initiating structure at .25 and .25 respectively. Evidently, these variables had overlapping variance and, since the LBDQ measures were more strongly related to criterion variables, the climate relationships were partialled out in the regression equation calculations.

A final observation about these results is the lack of predictive powers for the situational variables. Only the teacher-principal ratio variable was significant and then only in three of the seven equations. In this phase of the study, the leader traits clearly dominated the situational variables in predicting effectiveness. Based on these results, the hypothesis would need to be revised to reflect the lack of relationships among the situational and effectiveness variables.

Superordinate perceptions. The results for the district level administrators' evaluations of the principals' effectiveness in delineating operating procedures are summarized in Table 23. The results were significant at the 5% level with an *F* ratio of 1.94 (*df* = 20,144) and the multiple R^2 of .21. In examining the individual variables, an

TABLE 21

Stepwise Regression Analysis Summary for Principals' Perceived Total Effectiveness by Teachers as the Criterion Variable With All Situational and Leader Trait Factors Being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Principals/District	.11	.01	.07
Criteria of Quality	- .07	.00	- .03
Teachers/Principal	.01	.00	.15**
Pupils/Teacher	.07	.00	.00
Taxable Income/Pupil	.06	.01	- .01
Supportiveness	.37**	.17	.02
Administrative Difficulty	.14	.01	.04
Innovativeness	.27**	.00	- .08
Consideration	.77**	.41	.58**
Initiating Structure	.09	.11	.40**
Competiveness Desirability	.22**	.02	.15**
Tolerance for Work Pressure	.05	.00	.04
Surround Concern	.01	.00	- .04
Least Preferred Co-Worker	- .17*	.00	- .02
Willingness to Seek Reward	.01	.00	- .01
Potential for Personal Challenge and Development	.06	.00	- .02
Conservative Security	.01	.00	- .02
Building Level	- .03	.00	- .11
Position Experience	- .16*	.00	.02
Education Level	.04	.00	- .01

Overall Regression
Equation Indicators F Ratio = 22.74** Multiple R^2 = .76
df = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 22

Summary of Principals' Perceived Effectiveness by Teachers Using Stepwise Regression Analysis Procedures

Predictor Variables	TPE	TRE	TIE	TGSE	TDME	TOE	TTE
	Beta Weights for the Perceived Effectiveness Types						
TPRM	**				*		*
PTRM							
COQM							
TIPM							
PPDM							
ADDM							
SUPM							
INNM							
PPCD							
CD		**		*	**		**
TWP					*		
CS							
WSR							
SC							
LPC				- *			
CON	**	-**	**	**	**	**	**
IS	**	**		**	**	**	**
BL				-**			
PEX							
EL							
Multiple R^2	.67	.25	.79	.59	.57	.74	.76
F Ratio	15.20**	2.59**	28.42**	10.16**	9.69**	20.04**	22.74**

df = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

-Negative relationship.

TABLE 23

Stepwise Regression Analysis Summary for Principals' Perceived Procedural Effectiveness by Superordinates as the Criterion Variable with All Situational and Leader Trait Factors being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Teachers/Principal	.21**	.04	.08
Pupils/Teachers	- .01	.00	- .07
Taxable Income/Pupil	.04	.00	.03
Criteria of Quality	.00	.00	.02
Principals/District	.04	.00	.07
Administrative Difficulty	- .17*	.01	- .10
Supportiveness	- .06	.01	.16
Innovativeness	- .02	.01	- .20
Initiating Structure	.26**	.07	.30**
Conservative Security	- .17*	.02	- .08
Consideration	- .01	.01	- .15
Least Preferred Co-Worker	- .13	.01	- .10
Willingness to Seek Reward	.14	.01	.10
Tolerance for Work Pressure	- .02	.00	- .08
Competitiveness Desirability	.17*	.00	.08
Potential for Personal Challenge and Development	.00	.00	- .07
Surround Concern	- .02	.00	.04
Education Level	.04	.00	.06
Position Experience	- .15*	.00	- .05
Building Level	.26**	.00	.06

Overall Regression Equation Indicators
F Ratio = 1.94* df = 20,144
Multiple R^2 = .21

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*Significantly different from zero at the 5% level.

**Significantly different from zero at the 1% level.

interesting finding is that seven variables were correlated significantly with the criterion, but only initiating structure has a significant beta weight.

The data summary for predicting interpersonal effectiveness is presented in Table 24. The regression equation was significant at the 5% level (F = 1.86; df = 20,144). In addition, approximately 21% of the variance was explained. Specifically, the consideration subscale of the LBDQ was the only variable that was significantly correlated with the criterion. However, the EWCS subscale, willingness to seek reward, as well as consideration had significant beta weights.

Goal setting effectiveness of principals as perceived by superordinates was the best prediction in this series of analysis. These data constitute Table 25. The F ratio of 3.19 and multiple R^2 of .31 were the largest. Furthermore, seven variables were significantly correlated with the criterion and five had significant beta weights. Initiating structure, two EWCS factors, and the LPC were significant predictors.

The regression equations for perceived decision-making effectiveness and overall effectiveness were not significant at the 5% level. Tables 26 and 27 are comprised of these results.

However, when the five items were summed to form perceived total effectiveness by superordinates, the regression equation was significant at the 1% level (F = 2.64; df = 20,144) and multiple R^2 = .26. Although seven variables had significant simpe r values, only initiating structure had a significant beta weight.

Summary for superordinate effectiveness results. A summary of the these findings are presented in Table 29. Only initiating structure was a consistent predictor across the different items. This is supportive of earlier findings reported by Halpin (1966) that superordinates evaluate subordinates who are high on initiating structure as being more effective. As with perceived subordinate effectiveness, the situational variables were not significant predictors of superordinate effectiveness.

Organizational effectiveness. The regression equation for predicting the stability factor in organization effectiveness was not significant at the 5% level. However, from Table 30, it should be observed that six variables were significantly correlated with the criterion. In addition, the EWCS factor, conservative security, was negatively related with a significant negative beta weight.

The prediction of principals' integration factor of organization effectiveness was significant at the 1% level with a multiple R^2 of .28. Seven significant simple r values were found but none of the variables had significant beta weights. The data are summarized in Table 31.

The relationships for predicting voluntarism are similar. From the data summary constituting Table 32, the F value was significant at the 1% level, seven simple r values were significant, but no beta weights reached the 5% level of significance.

TABLE 24

Stepwise Regression Analysis Summary for Principals' Perceived Interpersonal Effectiveness by Superordinates as the Criterion Variable with Situational and Leader Trait Factors being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Pupils/Teacher	.07	.01	.03
Principals/District	.07	.00	.03
Criteria of Quality	- .04	.00	- .03
Taxable Income/Pupil	.02	.00	.00
Teachers/Principal	.03	.00	.06
Administrative Difficulty	.11	.02	.08
Supportiveness	.09	.01	- .09
Innovativeness	.06	.00	.06
Consideration	.34**	.11	.46**
Willingness to Seek Reward	- .11	.01	- .19*
Conservative Security	- .06	.02	- .11
Competiveness Desirability	.08	.01	.14
Least Preferred Co-Worker	- .14	.01	- .09
Initiating Structure	.14	.00	- .10
Potential for Personal Challenge and Development	.00	.00	- .04
Surround Concern	- .04	.00	- .05
Tolerance for Work Pressure	- .05	.00	- .02
Building Level	.03	.00	.08
Position Experience	- .03	.00	.06
Education Level	.01	.00	- .01

Overall Regression Equation Indicators   F Ratio = 1.86*   Multiple R^2 = .21
df = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 25

Stepwise Regression Analysis Summary for Principals' Perceived Goal Setting Effectiveness by Superordinate as the Criterion Variable with Situational and Leader Trait Factors being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Teachers/Principal	.26**	.07	.10
Principals/District	- .03	.01	- .18
Taxable Income/Pupil	.02	.00	.12
Criteria of Quality	- .02	.00	- .02
Pupils/Teacher	.00	.00	.03
Supportiveness	.01	.00	- .07
Innovativeness	.03	.00	- .07
Adminsitrative Difficulty	- .07	.00	.02
Initiating Structure	.22**	.06	.24**
Conservative Security	- .25**	.05	- .18*
Surround Concern	- .21**	.03	- .19*
Least Preferred Co-Worker	- .22**	.02	- .17*
Willingness to Seek Reward	- .04	.02	- .19*
Consideration	- .06	.01	- .11
Competitiveness Desirability	.14	.01	.05
Potential for Personal Challenge and Development	.07	.00	.05
Tolerance for Work Pressure	.03	.00	.01
Building Level	.33**	.02	.19
Position Experience	- .20**	.00	- .05
Education Level	- .01	.00	- .02

Overall Regression Equation Indicators   F Ratio = 3.19**   Multiple R^2 = .31
df = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 26

Stepwise Regression Analysis Summary for Principals' Perceived Decision-Making Effectiveness by Superordinates as the Criterion Variable with Situational and Leader Trait Factors being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Teachers/Principal	.24**	.06	.20
Principals/District	.01	.00	- .18
Taxable Income/Pupil	.04	.00	.11
Criteria of Quality	.00	.00	.00
Pupil/Teacher	.00	.00	.01
Adminsitrative Difficulty	- .10	.00	- .03
Supportiveness	- .01	.00	- .09
Innovativeness	.00	.00	- .02
Initiating Structure	.22**	.05	.26**
Conservative Security	- .18*	.02	- .16
Competiveness Desirability	.21**	.01	.11
Least Preferred Co-Worker	.00	.00	.06
Potential for Personal Challenge and Development	.11	.00	.05
Surround Concern	- .04	.00	- .05
Consideration	.04	.00	.03
Tolerance for Work Pressure	.06	.00	- .02
Willingness to Seek Reward	.00	.00	.00
Position Experience	.10	.00	.03
Building Level	.20**	.00	- .03
Education Level	.00	.00	.00

Overall Regression
Equation Indicators F Ratio = 1.56 Multiple R^2 = .20
df = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 27

Stepwise Regression Analysis Summary for Principals' Perceived Overall Effectiveness by Superordinates as the Criterion Variable with Situational and Leader Trait Factors being the Predictro Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Teachers/Principal	.19*	.04	.27*
Principals/District	- .09	.02	- .09
Criteria of Quality	- .07	.01	- .03
Pupils/Teachers	- .08	.00	- .11
Taxable Income/Pupil	- .09	.00	.00
Administrative Difficulty	- .04	.00	.02
Supportiveness	.01	.00	- .03
Innovativeness	- .08	.00	- .12
Initiating Structure	.22**	.06	.20*
Least Preferred Co-Worker	- .13	.02	- .13
Competiveness Desirability	.12	.00	.05
Consideration	.08	.00	.04
Potential for Personal Challenge and Development	.05	.00	- .03
Willingness to Seek Reward	.02	.00	- .03
Surround Concern	- .03	.00	- .00
Conservative Security	- .03	.00	.00
Tolerance for Work Pressure	- .01	.00	.01
Position Experience	- .17*	.00	- .10
Education Level	- .06	.00	- .03
Building Level	.16*	.00	- .04

Overall Regression Equation Indicators	F Ratio = 1.37 df = 20,144	Multiple R^2 = .16

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 28

Stepwise Regression Analysis Summary for Principals' Perceived Total Effectiveness by Superordinates as the Criterion Variable with Situational and Leader Trait Factors being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Teachers/Principal	.27**	.07	.20
Principals/District	.00	.00	- .10
Criteria of Quality	- .04	.00	- .02
Pupils/Teacher	.00	.00	- .05
Taxable Income/Pupil	.00	.00	.06
Supportiveness	.03	.00	- .03
Innovativeness	- .02	.00	- .14
Administrative Difficulty	- .08	.00	.00
Initiating Structure	.30**	.10	.26**
Conservative Security	- .19*	.03	- .15
Least Preferred Co-Worker	- .18*	.01	- .12
Competitiveness Desirability	.21**	.01	.12
Willingness to Seek Reward	.03	.00	- .09
Surround Concern	- .10	.01	- .07
Consideration	.11	.00	.07
Tolerance for Work Pressure	- .02	.00	- .03
Potential for Personal Challenge and Development	.07	.00	- .01
Building Level	.28**	.00	.07
Position Experience	- .19*	.00	- .03
Education Level	.00	.00	.00

Overall Regression
Equation Indicators   F Ratio = 2.64**   Multiple R^2 = .26
df = 20,144

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*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 29

Summary of Principals' Perceived Effectiveness by Superordinates Using Stepwise Regression Analysis Procedures

Predictor Variables	Beta Weights for the Perceived Effectiveness Types					
	SPE	SIE	SGSE	SDME	SOE	STE
TPRM					*	
PTRM						
COQM						
TIPM						
PPDM						
ADDM						
SUPM						
INNM						
PPCD						
CD						
TWP						
CS			- *			
WSR		- *	- *			
SC			- *			
LPC			- *			
CON		**				
IS	**		**	**	*	**
BL						
EEX						
EL						
Multiple R^2	.21	.21	.31	.20	.16	.26
_F_ Ratio	1.94*	1.86*	3.19**	1.56	1.37	2.64**

df = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

-Negative relationship.

TABLE 30

Stepwise Regression Analysis Summary for Principals' Stability Factor of Organization Effectiveness as the Criterion Variable with Situational and Leader Trait Factors being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Taxable Income/Pupil	.11	.01	.03
Pupils/Teacher	.08	.00	.06
Principals/District	.05	.00	- .12
Teachers/Principal	.03	.00	.06
Criteria of Quality	.02	.00	- .01
Supportiveness	.24**	.06	.09
Innovativeness	.23**	.01	.14
Administrative Difficulty	.11	.00	.07
Conservative Security	- .20**	.04	- .21*
Initiating Structure	.18*	.01	.08
Competitiveness Desirability	.14	.01	.12
Consideration	.20**	.00	.08
Least Preferred Co-Worker	- .16*	.00	- .05
Tolerance for Work Pressure	.00	.00	- .05
Surround Concern	.00	.00	.04
Potential for Personal Challenge and Development	.03	.00	- .03
Willingness to Seek Reward	.04	.00	- .01
Building Level	- .03	.00	- .07
Position Experience	- .08	.00	.01
Education Level	.00	.00	.00

Overall Regression Equation Indicators   F Ratio = 1.47   Multiple R^2 = .16
df = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 31

Stepwise Regression Analysis Summary for Principals' Integration Factor of Organization Effectiveness as the Criterion Variable with Situational and Leader Trait Factors being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Teachers/Principal	.21**	.04	.14
Pupils/Teacher	.15	.01	.13
Criteria of Quality	.00	.00	- .01
Principals/District	.10	.00	- .05
Taxable Income/Pupil	.07	.01	- .13
Supportiveness	.29**	.11	.20
Innovativeness	.31**	.03	.19
Administrative Difficuly	- .04	.00	- .02
Conservative Security	- .22*	.03	- .16
Initiating Structure	.26**	.02	.15
Surround Concern	- .12	.00	- .10
Potential for Personal Challenge and Development	.10	.01	.06
Tolerance for Work Pressure	.08	.00	.07
Competiveness Desirability	.10	.00	- .06
Consideration	.21**	.00	.03
Willingness to Seek Reward	.05	.00	- .03
Least Preferred Co-Worker	- .13	.00	.02
Position Experience	- .19*	.00	- .09
Education Level	.12	.00	.09
Building Level	.13	.00	.02

Overall Regression
Equation Indicators $\underline{F}$ Ratio = 2.82** Multiple R^2 = .28
$\underline{df}$ = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 32

Stepwise Regression Analysis Summary for Principals' Voluntarism Factor of Organization Effectiveness as the Criterion Variable with Situational and Leader Trait Factors being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Pupils/Teacher	.15*	.02	.09
Teachers/Principal	.12	.01	.19
Taxable Income/Pupil	.11	.00	- .04
Criteria of Quality	.03	.00	.01
Principals/District	.13	.00	.05
Supportiveness	.18*	.04	.11
Administrative Difficulty	.07	.00	.05
Innovativeness	.15*	.00	- .13
Least Preferred Co-Worker	- .24**	.04	- .15
Consideration	.25	.03	.17
Tolerance for Work Pressure	.14	.02	.16
Conservative Security	- .18*	.01	- .15
Initiating Structure	.23**	.01	.14
Potential for Personal Challenge and Development	.05	.00	- .08
Willingness to Seek Reward	.03	.00	- .05
Surround Concern	- .05	.00	- .04
Competiveness Desirability	.11	.00	.01
Education Level	.17*	.01	.14
Building Level	- .02	.01	- .14
Position Experience	- .08	.00	- .02

Overall Regression
Equation Indicators   F Ratio = 2.12**   Multiple R^2 = .23
df - 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

The largest number of significant simple r values with 11 was found in the principals' discipline achievement factor of organization effectiveness. These data are summarized in Table 33. However, only administrative difficulty and initiating structure had significant beta weights. The regression equation was significant at the one percent level (F = 2.67; df = 20,144).

Table 34 is comprised of the data summary for predicting the academic achievement component of organizational effectiveness. The F ratio for the regression equation is significant at the 5% level (F = 1.99; df = 20,144). Six simple correlation values were significant but only the beta weight for criteria of quality was significant.

As with the previous measures, the dimensions were summed to form a total effectiveness indicator. The data for predicting this criterion are summarized in Table 35. The regression equation was significant at the 1% level with approximately 26% of the variance explained. Six variables were significantly correlated with the criterion. The two climate variables, supportiveness and innovativeness, ahd significant simple r values but the beta weights were not significantly different from zero. Consideration and the LPC were similar with significant simple r values. However, only initiating structure and conservative security had significant beta weights. These findings are in the directions suggested by the theory with positive and negative relationships respectively.

Summary for principals' organizational effectiveness. A summary for these six regression procedures are presented in TAble 36. Five of the regression equations were significant at the 1% level. In addition, the multiple R^2 values ranged from .22 to .28 for these five equations. As in earlier analyses, the leader trait variables were the consistent predictors. Conservative security was negatively related and initiating structure was positively related to organizational effectiveness.

Self-evaluation of effectiveness and satisfaction. For these analyses, the following five variables were added to regression equations: students/principal, total experience, subordinate effectiveness, superordinate effectiveness, and organizational effectiveness. It was reasoned that these variables should be positively related to these two criterion variables.

The data summary for self-evaluation of effectiveness comprises Table 37. The regression equation was significant at the 5% level with approximately 23% of the variance explained. Although only two simple r values were significant, six beta weights were significantly different from zero. Three situational variables, criteria of quality, student-principal ratios, and teacher-principal ratios were significant predictors. Four of these relationships were negative. None of the newly added predictors were significant.

Table 38 is constituted of the data for job satisfaction. The regression equation was not significant. Only three variables had significant simple r values. Again, none of the newly added variables

TABLE 33

Stepwise Regression Analysis Summary for Principals' Discipline Achievement Factor of Organization Effectiveness as the Criterion Variable with Situational and Leader Trait Factors being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Teachers/Principal	.20*	.04	.16
Principals/District	.19*	.02	.08
Pupils/Teacher	.14	.00	.04
Taxable Income/Pupil	.14	.00	.02
Criteria of Quality	.00	.00	.02
Supportiveness	.21**	.07	.11
Administrative Difficulty	- .12	.01	- .17*
Innovativeness	.25**	.00	.04
Initiating Structure	.32**	.05	.22*
Potential for Personal Challenge and Development	.18*	.02	.14
Conservative Security	- .19*	.01	- .14
Consideration	.25**	.01	.11
Least Preferred Co-Worker	- .19*	.00	- .06
Tolerance for Work Pressure	.02	.00	- .08
Surround Concern	- .02	.00	- .04
Competitiveness Desirability	.16*	.00	.06
Willingness to Seek Reward	.04	.00	- .02
Building Level	.09	.01	- .11
Education Level	.15*	.00	.07
Position Experience	- .11	.00	.04

Overall Regression Equation Indicators   F Ratio = 2.67**   Multiple R^2 = .27
df = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 34

Stepwise Regression Analysis Summary for Principals' Academic Achievement Factor of Organizational Effectiveness as the Criterion Variable with Situational and Leader Trait Factors being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Teachers/Principal	- .16*	.03	- .06
Principals/District	.08	.02	.00
Criteria of Quality	- .13	.01	- .19*
Taxable Income/Pupil	.06	.00	- .02
Pupils/Teacher	.06	.00	.02
Innovativeness	.27**	.07	.19
Supportiveness	.23**	.01	.06
Administrative Difficulty	.12	.00	.00
Initiating Structure	.20**	.01	.15
Tolerance for Work Pressure	.06	.01	.10
Potential for Personal Challenge and Development	- .08	.01	- .09
Conservative Security	- .04	.00	- .11
Consideration	.25**	.00	.07
Surround Concern	- .06	.00	- .06
Willingness to Seek Reward	.00	.00	- .03
Competiveness Desirability	.02	.00	.05
Least Preferred Co-Worker	- .08	.00	.01
Building Level	- .22**	.02	- .18
Position Experience	.04	.01	.12
Education Level	.03	.00	.02

Overall Regression Equation Indicators F Ratio = 1.99* Multiple R^2 = .22
df = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 35

Stepwise Regression Analysis Summary for Principals' Total Organization Effectiveness as the Criterion Variable with Situational and Leader Trait Factors being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Principals/District	.14	.02	- .01
Teachers/Principals	.12	.01	.13
Pupils/Teacher	.12	.00	.06
Taxable Income/Pupil	.12	.00	- .02
Criteria of Quality	.00	.00	- .03
Supportiveness	.27**	.09	.11
Innovativeness	.29**	.01	.10
Administrative Difficulty	- .02	.00	- .07
Initiating Structure	.32**	.05	.22*
Conservative Security	- .22**	.03	- .19*
Consideration	.29**	.01	.13
Tolerance for Work Pressure	.10	.01	.08
Surround Concern	- .09	.01	- .10
Least Preferred Co-Worker	- .20**	.01	- .07
Willingness to Seek Reward	.05	.00	- .04
Potential for Personal Challenge and Development	.08	.00	.02
Competiveness Desirability	.12	.00	.02
Building Level	.01	.01	- .11
Education Level	.11	.00	.04
Position Experience	- .11	.00	.03

Overall Regression
Equation Indicators F Ratio = 2.56** Multiple R^2 = .26
df = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 36

Summary of Principals Organizational Effectiveness Using Stepwise Regression Analysis Procedures

Pred. Var.	STOE	INOE	VOOE	ADOE	AAOE	TIOE
	Beta Weights for Organizational Effectiveness Types					
TPRM						
PTRM						
COQM					-*	
TIPM						
PPDM						
ADDM				-*		
SUPM						
INNM						
PPCD						
CD						
TWP						
CS	-*					-*
WSR						
SC						
LPC						
CON						
IS				*		*
BL						
EEX						
EL						
Multiple R^2	.161	.28	.23	.27	.22	.26
F Ratio	1.47	2.82**	2.12**	2.67**	1.99*	2.56**

df = 20,144

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

-Negative relationship.

TABLE 37

Stepwise Regression Analysis Summary for Principals' Self Evaluation of Effectiveness as the Criterion Variable with Situational and Leader Trait Factors being the Predictor Varibles

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Taxable Income/Pupil	.16*	.03	.17
Pupils/Teacher	- .06	.01	- .08
Criteria of Quality	- .06	.01	- .17*
Students/Principal	- .04	.00	- .79*
Teachers/Principal	.03	.00	.83*
Princpials/District	.10	.00	.05
Innovativeness	.17*	.01	.17
Administrative Difficulty	- .01	.00	- .09
Supportiveness	.07	.00	.06
Least Preferred Co-Worker	.13	.02	.11
Willingness to Seek Reward	- .11	.02	- .21*
Competiveness Desirability	.10	.02	.27**
Potential for Personal Challenge and Development	- .11	.02	- .16
Consideration	- .03	.01	- .23
Initiating Structure	- .01	.00	- .08
Surround Concern	.02	.00	.05
Tolerance for Work Pressure	- .02	.00	- .07
Conservative Security	- .02	.00	- .04
Building Level	- .12	.04	- .31**
Education Level	.01	.00	- .08
Position Experience	.04	.00	.09
Total Experience	.02	.00	- .02
Subordinate Effectiveness	.03	.01	.20
Organizational Effectiveness	.01	.00	- .04
Superordinate Effectiveness	- .01	.00	.03

Overall Regression
Equation Indicators   F Ratio = 1.63*   Multiple R^2 = .23
df = 25,139

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*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

TABLE 38

Stepwise Regression Analysis Summary for Principals' Job Satisfaction as the Criterion Variable with Situational and Leader Trait Factors being the Predictor Variables

Predictor Variable	Simple r	Prop. of Variance Added	Beta Weight df=1,163
Pupils/Teacher	.13	.02	.16
Criteria of Quality	.10	.01	.05
Teachers/Principal	- .03	.01	- .61
Students/Principal	.01	.01	.50
Principals/District	.03	.00	.03
Taxable Income/Pupil	.09	.00	.04
Supportiveness	.17*	.02	.29*
Innovativeness	.03	.01	- .13
Administrative Difficulty	.02	.00	- .04
Conservative Security	.09	.01	.07
Consideration	.02	.01	- .19
Tolerance for Work Pressure	.06	.01	.10
Initiating Structure	.07	.01	.07
Willingness to Seek Reward	- .11	.01	- .03
Least Preferred Co-Worker	.02	.00	.07
Competiveness Desirability	- .04	.00	- .06
Potential for Personal Challenge and Development	.05	.00	.05
Surround Concern	.10	.00	.01
Position Experience	.24**	.03	.20
Education Level	.17*	.01	.07
Building Level	- .05	.00	.07
Total Experience	.10	.00	- .04
Superordinate Effectiveness	.05	.01	.10
Organizational Effectiveness	- .10	.00	- .07
Subordinate Effectiveness	.06	.00	.11

Overall Regression
Equation Indicators   F Ratio = 1.42   Multiple R^2 = .20
df = 25,139

*Significantly different from zero at the 5% level.
**Significantly different from zero at the 1% level.

were significant. In other words, the three types of effectiveness were not related to satisfaction.

Hypothesis Three

Tables 39 through 44 are comprised of the data summaries that were used to test the third hypothesis. This hypothesis postulated that the situational and leader trait variables would discriminate among principals grouped on different combinations of effectiveness and climate variables.

The interpretations of these data will use the standardized discriminant functions as "factors" taht underlie the group pattern of weights. This method was suggested and illustrated by Tatsuoka (1970). In addition, classification procedures as suggested by Cooley and Lohnes (1971) are presented in the tables. Each table is discussed separately in the following paragraphs.

Table 39 is constituted of the data summary for principals grouped on perceived effectiveness by teachers and innovativeness climate. The three standardized discriminate functions are significant beyond the 1% level. In addition, the correct classifications ranged from 50.0% to 73.2% for the four groups.

The scaled weights forming the first standardized discriminant weights are the LBDQ subscales of initiating structure and consideration. These appear to be separating the high effectiveness from the low effectiveness groups. The second discriminant function has positive scaled weights for taxable income per pupil, principals per district, and education level. Finally, the third function is comprised of large positive scaled weights on teachers per principal, criteria of quality, competiveness desirability, and conservative security while a negative weight was found for position experience.

Further findings to be elucidated in Table 39 are in the standardized discriminant functions. Interpreting these as suggested by Tatsuoka (1971), the first discriminant function that distinguishes among the groups is a factor comprised by high scores on the LBDQ dimensions--initiating structures and consideration. The second function is comprised of three variables that possibly could describe leaders in high status positions; that is those in larger, more wealthy positions that require a higher level of education. The third function is more difficult to interpret because of seemingly conflicting, in a conceptual sense, directions of the high loading factors. For example, principals who are less experienced in larger, elementary schools and desire a competitive job with security are described by this factor. In summary, the first standardized discriminant function was conceptually the most powerful with the other two being somewhat marginal.

The summary for discriminant analysis procedure for subordinate effectiveness (teacher perceptions) and supportiveness climate is presented in Table 40. The discriminant functions were significant beyond the 1% level. In addition, the correct classifications into the four groups ranged from 63.4% to 75.6%.

TABLE 39

Summary of a Multiple Discriminate Analysis Procedure For Differing Levels of Principals' Perceived Effectiveness by Teachers and Innovativeness of Climate

Variable	Means and Standard Deviations for Principal Groups Lo Ef Lo Cl (N=41)	 Lo Ef Hi Cl (N=42)	 Hi Ef Lo Cl (N=41)	 Hi Ef Hi Cl (N=41)	Standardized Discriminate Functions 1	 2	 3
TPRM	29.22	28.92	26.83	31.90	.29	-.07	.48
	18.51	21.02	15.22	27.33			
PTRM	17.58	18.19	17.64	18.46	.11	.07	.15
	1.64	1.41	1.52	1.51			
TOQM	70.22	70.12	69.19	70.24	-.07	.12	.46
	2.80	2.67	2.81	3.77			
TIPM	5365.75	7040.44	5300.45	7152.68	.21	.30	.00
	1792.81	2064.18	1838.94	2177.67			
PPDM	1.46	2.09	1.54	2.20	.15	.51	-.09
	.64	.62	.63	.87			
PPCD	25.51	25.12	24.92	24.83	-.30	-.12	-.23
	2.31	1.93	2.11	2.34			
CD	21.17	20.71	20.92	22.29	.29	.05	.52
	3.70	3.73	3.82	3.01			
TWP	20.56	20.39	19.83	20.37	-.05	.01	.22
	2.29	2.40	2.51	2.60			
CS	18.34	16.98	18.35	18.42	.06	-.16	.71
	3.08	3.68	3.08	3.51			
WSR	15.02	14.71	14.17	14.10	-.15	-.05	-.15
	3.83	4.01	4.26	4.05			
SC	23.85	23.83	23.74	23.68	-.10	.03	-.07
	2.60	2.29	1.98	2.13			
IPC	68.80	62.23	62.53	56.49	-.14	-.08	-.18
	19.38	24.42	23.81	17.73			
CON	35.54	39.36	45.70	47.91	.82	-.14	-.14
	6.06	6.08	4.61	5.38			
IS	35.99	37.64	41.46	42.63	.43	-.20	-.07
	4.49	4.50	3.48	3.51			
BL	1.51	1.46	1.52	1.44	-.18	-.22	-.33
	.51	.50	.51	.50			
EEX	7.34	7.73	7.26	5.98	.14	-.08	-.41
	6.85	6.40	6.11	5.69			
EL	2.71	3.19	2.64	3.07	-.04	.32	-.22
	.72	.95	.76	.93			
Correct Classifications	30 (73.2%)	21 (50.0%)	27 (65.8%)	28 (68.2%)			
Test of Significance for Each Function				df	51	32	15
				Root Functic	251.4	39.0	13.9
				Chi Square	385.9**	119.2**	35.4**

**Significant beyond the 1% level.

TABLE 40

Summary of a Multiple Discriminate Analysis Procedure For Differing Levels of Principals' Perceived Effectiveness by Teachers and Supportiveness of Climate

	Means and Standard Deviations for Principal Groups				Standardized Discriminate Functions		
Variable	Lo Ef Lo Cl (N=41)	Lo Ef Hi Cl (N=41)	Hi Ef Lo Cl (N=42)	Hi Ef Hi Cl (N=41)	1	2	3
TPRM	32.90	25.24	32.09	26.51	.24	-.12	.09
	21.27	17.38	19.26	24.53			
PTRM	17.97	17.80	18.33	17.76	.13	.06	.18
	1.52	1.60	1.75	1.32			
COQM	70.26	70.07	68.43	71.02	-.06	.34	.44
	2.70	2.76	3.07	3.13			
TIPM	5767.24	6638.95	6110.35	6323.02	.35	.69	-.21
	1920.71	2198.59	2376.55	2043.36			
PPDM	1.75	1.80	2.12	1.60	-.33	-.91	-.36
	.70	.71	.77	.80			
PPCD	25.19	25.43	24.98	24.78	-.21	.05	-.20
	2.16	2.12	2.09	2.36			
CD	21.59	20.29	21.71	21.49	.11	-.20	.57
	3.62	3.71	3.55	3.47			
TWP	20.49	20.46	19.83	20.37	.00	.13	.23
	2.19	2.49	2.81	2.28			
CS	18.00	17.32	18.12	18.66	-.03	-.21	.23
	3.06	3.79	3.28	3.29			
WSR	14.41	15.32	14.52	13.73	-.01	.09	-.57
	3.96	3.84	4.01	4.21			
SC	23.39	24.29	23.88	23.54	-.04	.01	-.48
	2.72	2.04	1.86	2.21			
LPC	67.04	63.99	61.18	57.88	-.06	.04	-.13
	19.85	24.40	22.50	20.86			
CON	34.34	40.56	45.01	48.61	.88	.07	-.13
	5.42	5.65	5.44	4.04			
IS	36.25	37.38	41.73	42.35	.37	-.22	.14
	4.92	4.13	3.62	3.43			
BL	1.60	1.37	1.60	1.36	-.22	-.25	.05
	.49	.49	.50	.49			
EEX	7.09	7.97	5.78	7.48	.18	.10	-.08
	5.95	7.21	5.01	6.65			
EL	2.83	3.07	2.83	2.88	-.15	-.07	-.22
	.83	.91	.93	.81			
Correct Classifications	30 (73.2%)	26 (63.4%)	29 (69.0%)	31 (75.6%)			
Test of Significance for Each Function				df	51	32	15
				Root Function	231.4	43.9	30.2
				Chi Square	416.7**	160.4**	68.6**

**Significant beyond the 1% level.

In the first discriminant function, the standardized scaled weight for consideration is .88. Since no other variable has a scaled weight approaching one-half this value, this factor was comprised of the single component. The second factor was composed of a variable indicating more wealth in smaller districts. The third function is constituted of five variables with relatively low scaled weights. These have some consistency with more competitive principal with less concern for their surroundings being separated by this factor. In summary, these discriminant functions were more interpretable than the first. Perhaps a reason for this is the conceptual similarity between supportiveness climate and considerate principal behavior.

Table 41 is constituted of the data used for discriminating among principals grouped on perceived superordinate effectiveness and innovativeness of climate. The three standardized discriminant functions were significant and the correct classifications ranged from 50.0% to 63.4%.

The first standardized discriminant function consists of principals high in consideration in larger schools in more wealthy districts. The second factor has five variables with high scaled weights. These suggest more effective principals are in large schools in smaller districts. In terms of leadership style, the more effective principals desire competitiveness, are task oriented (low LPC), and high on initiating structure. The third factor separates those individuals in the larger secondary schools as being perceived as more effective by their superordinates. In summary, these discriminate functions were consistent internally and with the theoretical framework.

Substituting supportiveness climate, Table 42 is comprised of the data used to discriminate among principals grouped on superordinate perceptions of effectiveness and above climate measure. The three discriminate functions were significant beyond the 1% level. Moreover, the correct classifications ranged from 46.3% to 63.4%.

The first standardized discriminant function has three variables with larger scaled weights. The more effective principals are again high on consideration and work in smaller more wealthy districts. The second factor describes effective principals in a small stable situation. In other words, small, elementary school buildings with more education and an orientation to good working conditions. The third factor seemed to be less interpretable. Eight variables qualify for inclusion under the "rule of thumb" being used and six had negative loadings.

Table 43 consists of a summary of the data for the discriminant analysis procedure for principals grouped on organizational effectiveness and innovativeness climate. The three discriminant functions were significant beyond the 1% level. However, the correct classification frequency was lower with a range of 36.6% to 58.5%.

The pattern of scaled weights appear to be similar in this analysis for organizational effectiveness as for subordinate and superordinate effectiveness. However, the scaled weights are generally lower, but a larger number contributed to the separation of the groups.

TABLE 41

Summary of a Multiple Discriminate Analysis Procedure For Differing Levels of Principals' Perceived Effectiveness by a Superordinate And Innovativeness of Climate

	Means and Standard Deviations for Principal Groups				Standardized Discriminate Functions		
Variable	Lo Ef Lo Cl (N=41)	Lo Ef Hi Cl (N=41)	Hi Ef Lo Cl (N=42)	Hi Ef Hi Cl (N=41)	1	2	3
TPRM	24.49	23.37	31.07	37.85	.14	.51	.97
	17.53	14.53	16.10	29.35			
PTRM	17.51	18.44	17.81	18.12	.00	-.23	-.20
	1.53	1.56	1.63	1.39			
COQM	69.88	70.17	69.45	70.26	.02	-.08	-.05
	2.75	3.39	2.79	3.25			
TIPM	5144.73	7052.51	5396.66	7263.07	.45	-.01	.35
	1666.16	2024.30	1862.50	2179.19			
PPDM	1.36	2.20	1.62	2.09	.41	-.36	-.46
	.54	.72	.66	.80			
PPCD	25.15	24.56	25.48	25.19	-.26	.24	-.26
	2.16	2.12	2.43	1.93			
CD	20.20	20.68	21.83	22.34	.29	.31	.06
	3.83	3.73	3.53	2.96			
TWP	20.51	20.05	20.07	20.51	-.07	-.05	.30
	2.45	2.34	2.43	2.61			
CS	18.88	17.93	17.86	17.43	-.17	-.03	-.01
	3.75	3.35	2.72	3.54			
WSR	14.56	14.15	14.98	14.29	-.27	-.10	-.04
	4.06	4.30	4.37	3.37			
SC	24.24	23.73	23.38	23.75	-.10	-.18	.36
	2.08	2.17	2.55	2.11			
LPC	68.07	64.07	60.74	57.22	-.08	-.31	.05
	22.21	21.21	22.53	20.39			
CON	40.10	42.64	40.81	45.08	.41	.08	.25
	7.57	7.90	7.41	5.74			
IS	37.43	39.31	39.61	41.42	.18	.30	.00
	4.13	5.34	5.12	3.83			
BL	1.34	1.36	1.67	1.56	-.06	.25	-.84
	.48	.49	.48	.50			
EEX	8.73	7.04	5.98	6.58	.01	.09	.23
	7.09	5.80	5.55	6.34			
EL	2.66	3.07	2.73	3.15	.15	-.12	-.13
	.69	.75	.83	1.09			
Correct Classifications	26 (63.4%)	24 (58.5%)	21 (50.0%)	21 (51.2%)			
Test of Significance for Each Function				df	51	32	15
			Root Function		86.67	32.33	17.79
			Chi Square		263.89**	116.34*	43.96*

**Significant beyond the 1% level.

TABLE 42

Summary of a Multiple Discriminate Analysis Procedure
For Differing Levels of Principals' Perceived
Effectiveness by a Superordinate
And Supportiveness Climate

Variable	Means and Standard Deviations for Principal Groups: Lo Ef Lo Cl (N=41)	Lo Ef Hi Cl (N=42)	Hi Ef Lo Cl (N=41)	Hi Ef Hi Cl (N=41)	Standardized Discriminate Functions: 1	2	3
TPRM	28.05	19.98	37.29	31.73	.23	-.43	-.29
	18.42	12.09	22.29	25.15			
PTRM	18.24	17.79	18.27	17.58	-.13	.06	.19
	1.68	1.49	1.62	1.36			
COQM	69.80	70.09	69.41	70.44	.02	-.02	.21
	3.21	2.75	3.38	2.84			
TIPM	5938.83	6225.33	6186.61	6486.00	.56	-.21	.40
	2114.40	2310.90	2209.69	1979.63			
PPDM	1.93	1.74	2.04	1.59	-.85	.11	-.44
	.75	.77	.74	.74			
PPCD	24.59	25.21	25.51	25.07	-.09	.01	-.39
	1.96	2.42	2.16	2.11			
CD	20.63	20.31	21.78	22.39	.23	-.49	.29
	3.68	3.77	3.42	3.22			
TWP	20.02	20.48	20.34	20.29	.02	.11	-.05
	2.26	2.49	2.69	2.40			
CS	18.51	18.12	17.73	17.73	-.21	-.14	.21
	3.05	3.78	3.17	3.48			
WSR	14.19	14.59	14.51	14.68	.03	.28	-.07
	3.73	4.54	4.05	3.84			
SC	23.54	24.38	23.85	23.31	-.08	.37	-.35
	2.04	2.14	2.53	2.16			
LPC	68.86	63.13	62.80	55.24	-.23	.27	-.07
	21.18	21.71	21.27	21.57			
CON	37.47	44.90	40.05	46.12	.79	.24	.13
	7.41	6.51	6.92	5.22			
IS	37.02	39.35	40.23	41.18	.15	-.28	-.58
	5.44	4.58	4.41	3.89			
BL	1.51	1.24	1.65	1.54	-.14	-.31	.19
	.51	.43	.48	.50			
EEX	7.92	7.52	5.76	7.10	.16	-.15	.28
	6.72	5.68	5.65	6.88			
EL	2.68	3.09	2.90	2.92	.11	.38	-.33
	.69	.82	.97	.96			
Correct Classifications	22 (53.6%)	22 (52.4%)	19 (46.3%)	26 (63.4%)			
Test of Significance for Each Function				df	51	32	15
				Root Function	106.1	37.5	15.8
				Chi Square	288.4**	120.9**	39.5**

**Significant beyond the 1% level.

TABLE 43

Summary of a Multiple Discriminate Analysis Procedure
For Differing Levels of Principals' Organizational
Effectiveness and Innovativeness of Climate

Variable	Means and Standard Deviations for Principal Groups Lo Ef Lo Cl (N=41)	Lo Ef Hi Cl (N=42)	Hi Ef Lo Cl (N=41)	Hi Ef Hi Cl (N=41)	Standardized Discriminate Functions 1	2	3
TPRM	29.17	23.38	28.39	36.02	.26	.53	.02
	16.15	14.58	17.92	29.98			
PTRM	17.51	18.19	17.78	18.39	.04	-.07	.08
	1.48	1.60	1.44	1.61			
COQM	70.44	69.67	69.39	70.27	-.19	-.01	.58
	2.90	2.98	2.58	3.62			
TIPM	5331.12	6903.09	5505.39	7080.63	.26	-.37	.03
	1786.74	2619.21	1748.08	1743.12			
PPDM	1.41	2.07	1.61	2.19	.47	-.28	.03
	.55	.81	.67	.75			
PPCD	25.27	24.57	25.10	25.46	-.08	.34	.23
	2.14	2.39	2.18	1.98			
CD	21.39	20.95	20.98	21.78	-.07	-.14	.07
	3.75	3.30	3.55	3.85			
TWP	20.07	20.00	20.34	20.73	.17	.23	-.03
	2.37	2.32	2.59	2.53			
CS	18.58	18.88	17.75	16.85	-.30	-.57	.12
	3.40	3.22	2.94	3.64			
WSR	14.73	14.26	14.54	14.46	-.17	-.11	-.11
	4.22	3.69	4.03	4.26			
SC	23.90	24.09	23.61	23.48	-.14	-.31	-.06
	2.74	1.99	2.17	2.03			
LPC	65.19	63.89	62.84	58.10	.04	-.06	-.10
	21.43	22.43	22.11	21.26			
CON	39.03	42.72	41.51	45.33	.49	.02	.39
	7.33	7.97	7.22	5.70			
IS	37.42	39.38	39.85	41.13	.31	.41	-.52
	4.73	5.12	4.59	4.23			
BL	1.61	1.36	1.43	1.54	-.36	-.13	.57
	.49	.48	.50	.50			
EEX	6.56	7.19	8.66	5.90	.11	.35	-.56
	5.95	5.84	7.03	6.01			
EL	2.71	2.97	2.78	3.14	.13	-.03	.04
	.64	.84	.88	1.04			
Correct Classifications	24 (58.5%)	21 (50.0%)	15 (36.6%)	23 (56.1%)			
Test of Significance for Each Function				df	51	32	15
				Root Function	75.1	27.2	16.5
				Chi Square	238.5**	104.2**	41.3**

**Significant beyond the 1% level.

The first function described a more effective principal as being high on the LBDQ scales with low concern for security. Moreover, these individuals tended to be in secondary buildings in larger districts. The second function was similar with the more effective individuals being high initiating structure and intrinsic motivation (PPCE) with less interest in conservative security. The situational variables suggested that principals in larger buildings with more experience were organizationally more effective. The third function builds onto the first two with difference in the LBDQ scores.

Finally, Table 44 is constituted from the data used for the discriminant analysis procedure for principals grouped on organizational effectiveness and supportiveness climate. The three standardized discriminate functions were significant beyond the 1% level. The correct classifications into the four groups ranged from 45.2% to 70.7%.

The first discriminant function is similar to the ones in the earlier analyses. The scaled weights for wealth (TIPM), size (PPDM), LBDQ consideration, and secondary building level were the largest. Similarly, the second standardized function was comprised of the building size (TPRM), negative wealth (TIPM), positive district size, low concern for security (CS), and high initiating structure. Again the secondary principals were more effective. However, more experienced (EEX) principals were more effective. The third factor was comprised of six variables that have surfaced in most other analyses.

Summary. The third hypothesis was partially supported. For the six analysis, all of the standardized discriminant functions were significantly different from zero. In addition, correct classifications were high. With four groups, 25% should be made by chance alone. However, 36.6% was the lowest level of correct classifications with 18 being 50% or larger.

The LBDQ subscales were repeatedly found to have high scaled weights. In addition, conservative security of the EWCS consistently had high weights. In addition, two variables not found in the earlier regression analyses appeared frequently and together. These were taxable income per pupil (TIPM) and principals per district (PPDM). These situational variables are indicators of district wealth and size.

These analyses probably were confounded by forming the groups on two variables. Whether the scaled weights were discriminating between principal effectiveness or organizational climate could not be determined.

Related Findings

The relationships among the effectiveness types and job satisfaction are of further theoretical importance. For example, there are conflicting reports in the research literature regarding the following questions: Do principals who rank higher on one effectiveness criterion tend to be high on other effectiveness criterion? Are more effective principals higher on job satisfaction? These questions guided the following series of analyses. First, a review of the correlational

TABLE 44

Summary of a Multiple Discriminate Analysis Procedure For Differing Levels of Principals' Organizational Effectiveness and Supportiveness of Climate

	Means and Standard Deviations for Principal Groups				Standardized Discriminate Functions		
Variable	Lo Ef Lo Cl (N=41)	Lo Ef Hi Cl (N=41)	Hi Ef Lo Cl (N=42)	Hi Ef Hi Cl (N=41)	1	2	3
TPRM	31.85	20.85	34.74	29.24	.20	.56	.08
	17.19	11.68	23.95	25.54			
PTRM	18.17	17.54	18.29	17.88	-.14	-.17	.52
	1.75	1.32	1.60	1.47			
COQM	69.85	70.20	69.02	70.71	.02	-.39	.42
	2.96	2.99	3.21	2.87			
TIPM	5718.05	6491.51	6083.14	6547.54	.58	-.44	.05
	1853.73	2771.67	2139.32	1621.08			
PPDM	1.80	1.68	2.10	1.71	-.60	.64	-.57
	.68	.85	.76	.72			
PPCD	25.15	24.73	25.24	22.27	-.14	.14	.32
	2.04	2.52	2.15	2.00			
CD	21.51	20.83	21.24	21.51	-.01	-.14	-.02
	3.86	3.19	3.79	3.60			
TWP	20.17	20.00	20.47	20.49	.01	.21	.16
	2.50	2.11	2.68	2.52			
CS	18.78	18.63	17.14	17.56	-.29	-.59	-.01
	2.69	3.85	3.50	3.15			
WSR	14.51	14.54	14.19	14.76	.12	-.28	-.03
	4.06	3.91	4.20	4.04			
SC	23.85	24.17	23.69	23.39	-.07	-.14	-.56
	2.56	2.21	2.06	2.09			
LFC	68.65	60.80	61.99	58.63	-.12	-.01	.10
	19.75	23.41	20.95	23.37			
CON	37.35	44.43	41.35	45.49	.68	-.06	.04
	7.04	7.12	7.02	5.72			
IS	37.49	39.35	39.96	40.96	.24	.46	.23
	5.34	4.57	4.23	4.60			
BL	1.68	1.29	1.52	1.49	-.48	-.43	.39
	.47	.46	.51	.50			
EEX	6.10	7.73	7.57	6.90	.21	.41	-.15
	5.32	6.39	6.95	6.31			
EL	2.73	2.95	2.85	3.07	.14	-.06	.13
	.67	.84	1.03	.91			
Correct Classifications	29 (70.7%)	19 (46.3%)	19 (45.2%)	21 (51.2%)			
Test of Significance for Each Function				df	51	32	15
				Root Function	84.6	36.3	12.0
				Chi Square	255.6**	110.4**	31.1**

**Significant beyond the 1% level.

analysis will be made. Second, the relationships will be explored with 2 X 2 X 2 factorial analysis of variance procedures. Since the situation is so closely associated with effectiveness, the two organizational climate variables also were included in these analyses. The results are presented in the following paragraphs.

Correlational analysis. A summary of correlation coefficients for the germane variables constitute Table 45. The first observation is that the climate variables were highly, positively correlated with teacher evaluations of effectiveness and organization effectiveness. Superordinate evaluations were not related to the situational components but to the subordinates perceptions. A potentially important finding is that organizational effectiveness was related to the climate variables and to the perceptions of their subordinates and superordinates. This suggests that organizational effectiveness requires a complex series of relationships among the principal, the teachers, the district level administration, and the school climate.

A final observation is the lack of significant relationships for selfevaluation of effectiveness and job satisfaction. None of the other effectiveness types had significant correlation coefficients with these variables. However, they were significantly related to the climate variables. In addition these relationships are suggestive of subtle relationships. For example, the principals evaluated themselves as being effective where the district climate was more innovative. It appears that where an "air" of innovation or activity was perceived by the teachers, the principal then felt himself to be effective even though the relationship to actual effectiveness is essentially zero ($r = -.01$ to $.03$). Moreover, the principals' job satisfaction levels also were related to a climate variable rather than effectiveness indicators. Principals tended to be satisfied in situations where the supportiveness was high or interpersonal relationships were positive. These findings suggest that principals' perceptions of themselves were related to situational aspects rather than to actual and perceived performance.

Subordinate effectiveness. To further elaborate the foregoing findings by testing for significant main effects and interactions, a series of 2 X 2 X 2 factorial analysis of variance procedures were completed. Each of these procedures tested an effectiveness measure and the two climate measures across the other effectiveness types and job satisfaction.

The results for subordinate effectiveness are presented in Table 46. This variable exhibited a significant main effect on superordinate perceptions and organizational effectiveness. The climate variables were not significant for superordinate effectiveness but were for organizational effectiveness. This finding seems logical because the supervisor is not part of the building situation and probably would have limited knowledge of the specific situation. However, it seems reasonable that the superordinate would receive informal feedback from the teachers in the form of rumors and gripes and formal feedback in the form of grievances and turnover. On the other hand, the subordinate perceptions of the principal and the organizational climate would

TABLE 45

Summary Correlation Matrix for Four Effectiveness Variables, Job Satisfaction, and Organizational Climate

	INNM	SUPM	TTE	STE	TIOE	SEE	SAT
INNM	1.00	.42**	.27**	-.02	.29**	.17*	.03
SUPM		1.00	.37**	.04	.26**	.07	.18*
TTE			1.00	.31**	.43**	.03	.06
STE				1.00	.18*	-.01	.05
TIOE					1.00	.01	-.01
SEE						1.00	.09
SAT							1.00

*$p < .05$ ($df = 163$, Critical Value = .16)
**$p < .05$ ($df = 163$, Critical Value = .20)

TABLE 46

Means, Standard Deviations, and Summary of Analysis of Variance for Three Effectiveness and One Satisfaction Variables Acrocc Principal Groups Differing in Perceived Subordinate (sb) Effectiveness, Innovativeness and Supportiveness

(df = 1,157)

Superordinate Effectiveness

	Lo SUB Lo INN Lo SUP	Lo SUB Lo INN Hi SUP	Lo SUB Hi INN Lo SUP	Lo SUB Hi INN Hi SUP	Hi SUB Lo INN Lo SUP	Hi SUB Lo INN Hi SUP	Hi SUB Hi INN Lo SUP	Hi SUB Hi INN Hi SUP
$\bar{X}$	15.57	15.20	13.76	15.4	19.38	18.24	17.09	17.10
SD	4.65	5.14	4.83	4.88	3.83	5.46	6.34	4.78

Analysis of Variance Summary

Source	F	Probability
SUB (Sb)	14.33	.000*
INN (I)	2.57	.111
SUP (S)	.00	.967
SbI	.33	.564
SbS	.59	.445
IS	1.01	.316
SbIS	.07	[illegible]

Organizational Effectiveness

$\bar{X}$	2.12	2.36	2.37	2.58	2.17	2.85	3.01	3.50
SD	.93	.94	1.15	.84	1.20	1.08	.89	1.51

Analysis of Variance Summary

Source	F	Probability
SUB (Sb)	9.63	.002*
INN (I)	8.41	.004*
SUP (S)	5.63	.019*
SbI	2.27	.133
SbS	1.09	.297
IS	.11	.746
SbIS	.06	.810

TABLE 46 Continued

Self-Evaluation of Effectiveness

$\bar{X}$	3.62	3.70	3.76	3.75	3.67	3.67	3.76	3.85
SD	.67	.47	.44	.44	.48	.48	.44	.49

Analysis of Variance Summary

Source	F	Probability
SUB (Sb)	.14	.711
INN (I)	2.34	.128
SUP (S)	.26	.611
SbI	.08	.781
SbS	.00	.951
IS	.00	.988
SbIS	.34	.558

Satisfaction

$\bar{X}$	3.81	3.80	4.14	4.30	4.24	4.33	3.86	4.30
SD	1.08	1.10	.57	.57	.77	.80	.96	.92

Analysis of Variance Summary

Source	F	Probability
SUB (Sb)	1.56	.213
INN (I)	.60	.440
SUP (S)	1.61	.207
SbI	5.31	.022*
SbS	.52	.472
IS	.90	.343
SbIS	.11	.739

*Significant beyond the 5% level.

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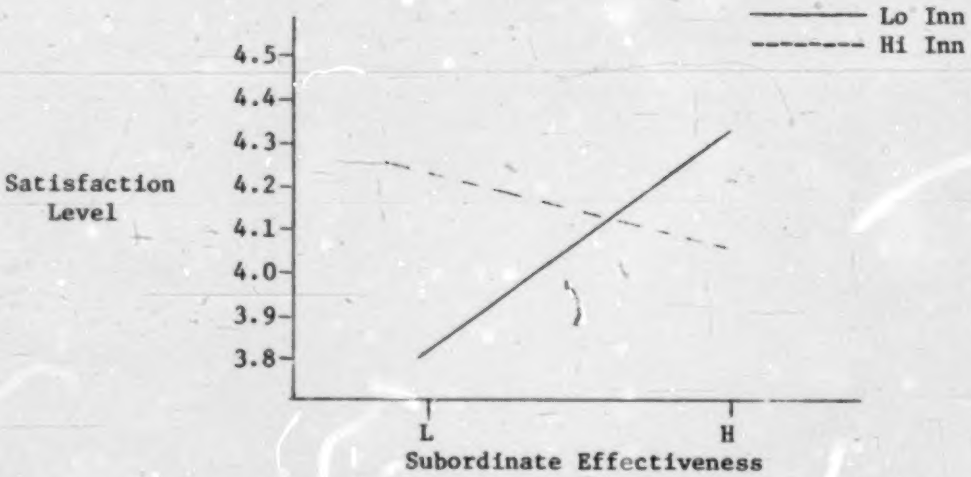

Figure 2. Interaction Between High and Low Groups on Subordinate Effectiveness and Innovativeness Climate

TABLE 47

Means, Standard Deviations, and Summary of Analysis of Variance for Three Effectiveness and One Satisfaction Variables Across Principal Groups Differing in Perceived Superordinate (SPR) Effectiveness, Innovativeness and Supportiveness
(df = 1,157)

Subordinate Effectiveness

	Lo SPR Lo INN Lo SPP	Lo SPR Lo Inn Hi SPP	Lo SPR Hi INN Lo SPP	Lo SPR Hi INN Hi SPP	Hi SPR Lo INN Lo SPP	Hi SPR Lo INN Hi SUP	Hi SPR Hi INN Lo SPP	Hi SPR Hi INN Hi SPP
$\overline{X}$	21.86	24.61	22.39	25.57	24.05	25.73	26.34	27.67
SD	3.02	3.76	5.26	4.12	4.00	3.69	2.95	3.32

Analysis of Variance Summary

Source	F	Probability
SPR (SP)	15.45	.000**
INN (I)	5.78	.017*
SPP (S)	14.11	.000**
SpI	1.32	.251
SpS	1.52	.220
IS	.00	.978
SpIS	.11	.743

Organizational Effectiveness

$\overline{X}$	2.07	2.31	2.44	2.74	2.24	2.63	2.93	3.58
SD	1.04	.98	1.16	1.23	1.03	.92	.96	1.27

Analysis of Variance Summary

Source	F	Probability
SPR (SP)	7.34	.007**
INN (I)	12.99	.000**
SPP (S)	5.52	.020*
SpI	1.56	.213
SpS	.53	.468
IS	.22	.638
SpIS	.09	.765

Table 47 Continued

Self-Evaluation of Effectiveness

$\bar{X}$	3.62	3.75	3.70	3.86	3.62	3.62	3.90	3.71
SD	.67	.44	.47	.36	.50	.50	.31	.56

Analysis of Variance Summary

Source	F	Probability
SPR (SP)	.06	.809
INN (I)	3.44	.066
SPP (S)	.11	.737
SpI	.38	.537
SpS	2.42	.121
IS	.27	.601
SpIS	.48	.487

Satisfaction

$\bar{X}$	3.76	4.35	4.15	4.14	4.05	3.90	4.25	4.19
SD	.94	.67	.67	.73	1.07	1.09	.77	.93

Analysis of Variance Summary

Source	F	Probability
SPR (SP)	.00	.983
INN (I)	1.49	.223
SPP (S)	.48	.490
SpI	.31	.576
SpS	2.05	.154
IS	.87	.351
SpIS	1.54	.217

*Significant beyond the 5% level.
**Significant beyond the 1% level.

TABLE 48

Means, Standard Deviations, and Summary of Analysis of Variance for Three Effectiveness and One Satisfaction Variables Across Principal Groups Differing in Organizational Effectiveness, Innovativeness and Supportiveness
(df = 1, 157)

Subordinate Effectiveness

	Lo ORG Lo INN Lo SPP	Lo ORG Lo INN Hi SPP	Lo ORG Hi INN Lo SPP	Lo ORG Hi INN Hi SPP	Hi ORG Lo INN Lo SPP	Hi ORG Lo INN Hi SPP	Hi ORG Hi INN Lo SPP	Hi ORG Hi INN Hi SPP
$\overline{X}$	21.83	24.06	22.38	25.68	24.53	26.57	26.49	26.76
SD	3.48	3.48	5.10	3.57	4.02	3.68	2.89	4.08

Analysis of Variance Summary

Source	F	Probability
ORG (O)	18.88	.000**
INN (I)	3.25	.073
SPP (S)	10.70	.001**
OI	.00	.993
OS	1.80	.182
IS	.08	.771
OIS	1.41	.236

Superordinate Effectiveness

	Lo ORG Lo INN Lo SPP	Lo ORG Lo INN Hi SPP	Lo ORG Hi INN Lo SPP	Lo ORG Hi INN Hi SPP	Hi ORG Lo INN Lo SPP	Hi ORG Lo INN Hi SPP	Hi ORG Hi INN Lo SPP	Hi ORG Hi INN Hi SPP
$\overline{X}$	16.90	17.50	14.62	13.38	17.40	16.71	17.90	17.57
SD	4.96	4.72	4.63	3.77	4.83	6.17	5.86	5.48

Analysis of Variance Summary

Source	F	Probability
ORG (O)	5.10	.025*
INN (I)	2.52	.114
SPP (S)	.27	.603
OI	5.96	.016*
OS	.01	.907
IS	.21	.643
OIS	.47	.492

Table 48 Continued

Self-Evaluation of Effectiveness

$\bar{X}$	3.61	3.70	3.76	3.81	3.65	3.66	3.75	3.80
SD	.50	.47	.44	.40	.67	.48	.44	.51

Analysis of Variance Summary

Source	F	Probability
ORG (O)	.00	.963
INN (I)	2.58	.110
SPP (S)	.44	.507
OI	.00	.975
OS	.03	.865
IS	.00	.975
OIS	.06	.805

Satisfaction

$\bar{X}$	3.81	4.10	4.10	4.19	4.00	4.28	4.15	4.14
SD	1.03	.97	.62	.60	1.02	.72	.93	1.06

Analysis of Variance Summary

Source	F	Probability
ORG (O)	.48	.489
INN (I)	.48	.489
SPP (S)	1.44	.231
OI	.45	.505
OS	.04	.846
IS	.78	.378
OIS	.03	.860
Error		

*Significant beyond the 5% level.
**Significant beyond the 1% level.

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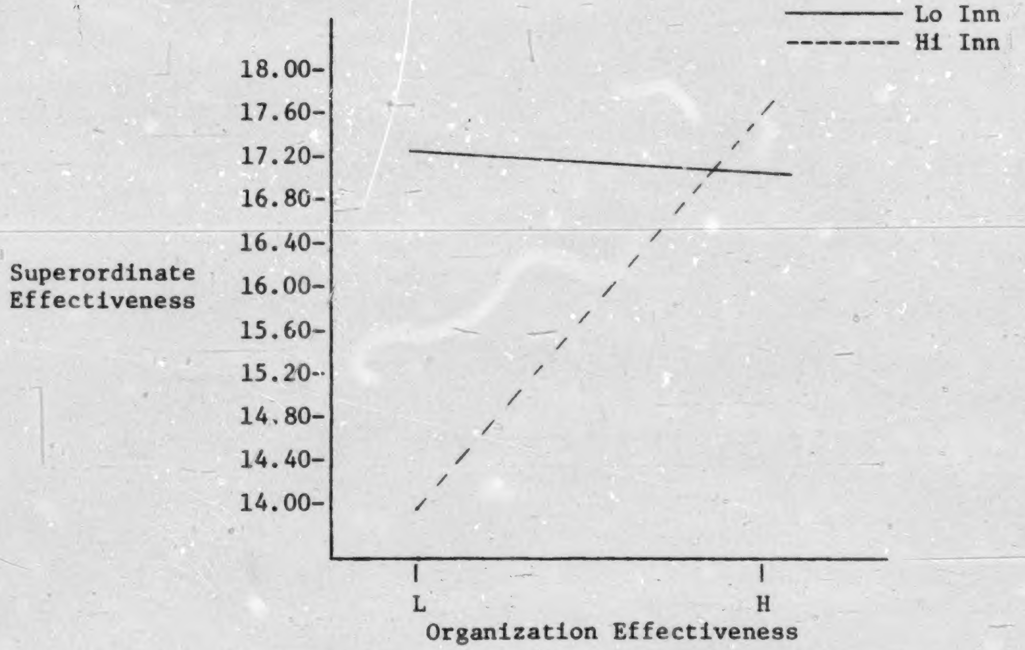

Figure 3. Interaction Between High and Low Groups on Organization Effectiveness and Innovativeness Climate

closely parallel attempts to initiate new programs for organizational effectiveness. Therefore, these results appear to be logically consistent. No significant interaction effects were found for these variables.

Contrary to the foregoing, no significant main effects were found for subordinate effectiveness on self-evaluation and job satisfaction. However, a significant interaction effect was found for subordinate effectiveness and innovativeness climate on satisfaction. These relationships are presented graphically in Figure 2. An interpretation would be that satisfaction can be high when innovativeness is high but their effectiveness is low. Moreover, job satisfaction can be high when the principal is perceived as being more effective by the teachers in a less innovative climate. Obviously, this finding elaborates the aforementioned correlational findings. This suggests two different paths to job satisfaction rather than the one suggested in the correlational results. However, these may be complementary with job satisfaction resulting from being "part of the action." In other words, satisfaction results from being in an innovative or vibrant environment even though he is not personally too successful or being successful inspite of the climate. The foregoing might be closely related to hygiene factors while later appears to be related to motivator factors such as recognition and achievement.

Superordinate effectiveness. These results are summarized in Table 47. These findings basically support the correlational results. Superordinate effectiveness had a significant main effect on subordinate and organizational effectiveness. There were no significant main effects on self-evaluation of effectiveness or job satisfaction. In addition, no significant interactions among superordinate effectiveness and the two climate measures.

Organizational effectiveness. The analysis of variance results for these tests comprise Table 48. These relationships were similar to the preceeding findings. The variables had reciprocal main effects; that is, high effectiveness on one type suggested high effectiveness on the other types. Again, supportiveness was associated with superordinate effectiveness.

Moreover, with superordinate effectiveness, organizational effectiveness, and innovativeness had a significant interacting relationship. To clarify this interaction, the means were plotted in Figure 3. Where the climate was highly innovative and the principals organizational effectiveness was low, the superordinates' evaluation was very low. However, when organizational effectiveness was high, innovative climate was low then the superordinates' evaluations also were high. One interpretation would be that when the district emphasized innovation, a principal is rated extremely low by the superordinate if he is not organizationally effective. However, if the principal can be innovative in his building against the district climate, then he will not be downgraded by superordinate to a great degree.

Self-evaluation of effectiveness and satisfaction. No main effects were found. Based on the earlier discussion of the correlational analysis, these were related to climate variables with the exception of the earlier discussed interaction effect presented in Figure 2.

Summary. First, several main effects were found to be significant among the effectiveness types. Second, the main effects were in the directions suggested by the theory. Third, very few significant interactions were found to support the contention that effectiveness and situational variables combine to effect other measures of effectiveness. Fourth, the principals' perceptions of themselves were not directly related to the other effectiveness measures.

Content Analysis of Leader Traits and Situational Factors

Traits. The data obtained from the interview were analyzed using a one-way analysis of variance procedure. Means, standard deviations, and between- and within-category variances of skills and characteristics were obtained for the categories and are shown in Table 49.

The most frequently mentioned factor perceived by superintendents as being the most important to building principals was interpersonal skills with a mean of 1.63. The second most frequently mentioned factor was personal characteristics with a mean of 1.24. Managerial skills, knowledge and intelligence, experience, and other were mentioned considerably less often as being important to the building principal.

In order to determine if there were any significant differences between the categories and the frequency of response, a posteriori test was completed. The Tukey (a) procedure as described by Winer (1971) was used for characteristics and skills. The interpersonal skills category differed significantly at the 5% level from knowledge and intellectual skills. At the 1% level of significance, interpersonal skills differed from experience and other personal characteristics differed at the 5% level of significance from other.

Situational Factors. The means, standard deviations, and between- and within-categories variance for situational factors are presented in Table 50. The factor considered to have the most effect on the characteristics and skills desired in building principals is the socio-economic status of the community with a mean of 1.61. The second most influential factor is the community location, organizations, and orientation with a mean of .98. No effect, race, other, and size, structure, and personnel were mentioned markedly less often as influencing the desired characteristics and skills of building principals.

The significance of the differences between categories was determined with the Tukey procedure. The economic status differed significantly at the 5% level from community location, organizations and orientation, and no effect. Socio-economic status differed from race; other; and size, structure, and personnel at the 1% level of significance. Community location, organizations, and orientation differed significantly at the 1% level from size, structure, and personnel.

TABLE 49

Means, Standard Deviations, and Summary Table of
One-Way Analysis of Variance for
Leader Traits

Source	Mean	Standard Deviations
1. Interpersonal skills	1.63	1.24
2. Personal characteristics	1.24	1.74
3. Managerial skills	.98	1.11
4. Knowledge and intelligence	.87	1.17
5. Experience	.58	.57
6. Other	.32	.57

	df	MS	F	P
Between categories	5	8.96	7.42	.00
Within categories	200	1.21		

TABLE 50

Means, Standard Deviations, and Summary Table
for Situational Factors

Source	Mean	Standard Deviation
Socio-economic status	1.61	1.26
Community location, organizations and orientation	.98	1.11
No effect	.88	.17
Race	.58	.74
Other	.32	.57
Size, structure, and personnel	.24	1.74

	df	MS	F	P
Between categories	5	8.69	7.16	.00
Within categories	200	1.21		

Overall Summary of Findings

Hypothesis One

The first hypothesis posited that significant linear and quadratic relationships would exist between each independent and mediating variable and each type of total effectiveness. From the 240 simple correlational, linear, and curvilinear regression relationships, a total of 52 significant relationships were found. Of the 52, only five of a possible 80 curvilinear relationships were found to be significant beyond the 5% level. Consequently, the curvilinear portion of the hypothesis was not supported.

However, each of the five effectiveness types had from two to eight significant predictors. Subordinate effectiveness was highest with eight predictors. Organization and superordinate effectiveness has seven and six predictors respectively. Satisfaction was predicted by five variables while self-evaluation of effectiveness was predicted by only two.

Further findings included the mutually supportive results that high initiating structure, low LPC, and innovativeness climate were related to three effectiveness criteria. In other words, the individual dimensions of task orientation comprised of high initiating structure and low LPC in addition to the related situational variable of high innovativeness were significantly related to subordinate, superordinate, and organization effectiveness. Similarly, supportiveness climate and leader consideration, as indicators of interpersonal conditions, were positively related to subordinate and organizational effectiveness.

Only two of the EWCS motivational subscales were related to effectiveness. Competitiveness desirability, an intrinsic factor with a risk component, was positively related to subordinate and superordinate effectiveness. Conservative security was negatively related to superordinate perceptions and organization effectiveness.

Finally, the two leader demographic variables of position experience and education that are commonly associated with administrative effectiveness demonstrated interesting relationships. Experience was negatively related to subordinate and superordinate effectiveness while education level and experience were positively related only to satisfaction. Perhaps these demographic variables, as primary criteria for principal selection, need to be re-evaluated in light of these findings.

Hypothesis Two

This statement postulated that the independent variables of leader style and characteristics in conjunction with the mediating variables of organizational climate and school characteristics would be significant predictors of the different effectiveness scores. Considering only the total scores, hypothesis two was listed through the use of five multiple-stepwise regression analysis procedures.

Overall equation findings. With 20 and 144 degrees of freedom the critical F ratio values are 1.64 at the 5% level of confidence and 2.00 at the 1% level. With 25 and 139 degrees of freedom the critical values decrease to 1.60 and 1.93 respectively. Consequently, four of the five regression equations were significantly different from zero. Only job satisfaction was not predicted at a statistically significant level. Moreover, the level of explained variance in the four equations ranged from 76% for subordinate effectiveness to 26% for two criteria to 23%

for self-evaluation. Therefore, the hypothesis was partially supported by the overall regression equations and levels of explained variance for the four criterion variables.

Additional support for the hypothesis is found in the directions of the significant beta weights. The teachers in larger schools rate their principals as being more effective. Indeed, promotions to larger schools are considered to be based on demonstrated competence. Moreover, the individuals tend to be intrinsically motivated with a high degree of risk propensity as suggested by the beta weight for competiveness desirability. The LBDQ subscales also are significant and in a positive direction. These findings support earlier findings by Ford, Borgatta, and Bohrnstedt (1969) and Halpin and Winer (1957).

Superordinate effectiveness was predicted at statistically significant level only by initiating structure. However, this is supportive of the theoretical model and earlier research reported by Halpin (1966).

Similarly, organization effectiveness was predicted at a significant level by two measures suggestive of personal aggressiveness by the principal. These were the negative relationship for conservative security and the positive relationship for initiating structure.

The significant predictors for self-evaluation of effectiveness appear to have some internal contradictions. For example, the larger the teaching staff the higher the rating but the reverse appears true for the student body. Obviously, these two variables are directly related. A possible explanation might be that principals deem their relationships with a larger faculty in a positive manner while a large student body would seem overwhelming. Another explanation might be that the beta weights occurred by chance. The very small correlations

($r = .03$ and $-.04$) would support this assertion. A similar situation presents itself with the opposite relationships for competitiveness desirability (beta = $.27^{**}$) and willingness to seek reward inspite of uncertainty (beta = $-.21^{*}$). Although these were not intended to measure similar constructs, they might be to be the same to a principal in a work situation. In other words, a principal might perceive himself as competitive but not wanting to take undue chances.

A final observation about these results is the lack of predictive powers for the situational variables. Only the teacher-principal ratio variable was significant in the three external criteria. In this phase of the study, the leader traits clearly dominated the situational variables in predicting effectiveness. Based on these results, the hypothesis would need to be revised to reflect the lack of relationships among the situational and effectiveness variables.

Findings regarding the specific measures. However, the number of variables with significant beta weights for each criterion was somewhat limited. With 20 or 25 predictor variables being entered in each regression equation, only one to six variables had significant beta weights even though the number of significant simple correlations was somewhat higher in frequency ($N = 165$; $r_{.95} = .155$; $r_{.99} = .204$). In addition, the situational variables had significant beta weights for two criterion variables in only four instances--one for subordinate effectiveness and three for self-evaluation of effectiveness. Moreover, the innovativeness and supportiveness climate variables had reasonably large simple correlations ($p < .01$) with the subordinate and organization criteria but the beta weights were not significant. An explanation for this is provided by their intercorrelations. These variables were correlated with the LBDQ consideration scale at .50 and .30 and with initiating structure at .25 and .25 respectively. Evidently, these variables had overlapping variance and, since the LBDQ measures were more strongly related to the criterion variables, the climate relationships were partialled out in the regression equation calculations.

The EWCS work motivation subscales also did not demonstrate a high frequency of significant predictors. However, of the four significant beta weights, three were in direct support of the theoretical model. For example, competitiveness desirability, an intrinsic combined with risk propensity factor, was positively related to the subordinate and self-evaluation criteria. In conflict with this finding is a similar factor, willingness to seek reward, which was negatively related to the self-evaluation criterion. However, conservative security was supportive of the theory with a significant negative relationship to organization effectiveness. The simple correlation coefficients for competiveness desirability was also significantly related to superordinate perceptions of effectiveness.

The least preferred co-worker (LPC) did not significantly predict any of effectiveness criteria. However, three simple correlations were significant and in the directions that would be expected; that is, the LPC scores were negatively related to subordinate, superordinate, and organization effectiveness.

The LBDQ subscales of consideration and initiating structure were the best predictors, in terms of quantity and support of the theoretical model, included in the investigation. One or both were positively correlated ($p < .01$) to the three external criterion variables. However, initiating structure appears to be more closely related to the different effectiveness types with significant beta weights for subordinate, superordinate, and organization effectiveness. However, the consideration beta weight also was significant for subordinate effectiveness. None of the relationships for the personal effectiveness criterion was significant.

In evaluating the leader characteristics, only building level had a significant beta weight. Elementary principals evaluate themselves higher than do secondary principals. Their superordinates tend to disagree with a significant correlation suggesting that secondary principals are perceived to be more effective by their mutual superiors. It is interesting to note that position experience was negatively related to subordinate and superordinate effectiveness types.

Finally, the levels of effectiveness are not significantly related to the individual effectiveness criteria of self-evaluation and satisfaction. In fact, the correlation coefficients and the beta weights approach zero.

These findings suggest that the model was minimally supported. The regression equations were significant for four of five calculations. The explained variance was very good for subordinate effectiveness and minimal for the other three significant equations. The significant beta weights directionally supported the theoretical model even though a minimal number of significant relationships were found. Therefore, the theoretical model must be refined to reflect these findings.

Hypothesis Three

This hypothesis postulated that the situational and leader trait variables would discriminate among principals grouped on different combinations of effectiveness and climate variables. The interpretations of these data was made using the standardized discriminant functions as "factors" that underlie the group pattern of weights.

The third hypothesis also was partially supported. For the six analysis, all of the standardized discriminant functions were significantly different from zero. In addition, correct classifications were high. With four groups, 25% should be made by chance alone. However, 36.6% was the lowest level of correct classifications with 18 being 50% or larger.

The LBDQ subscales were repeatedly found to have high scaled weights. In addition, conservative security of the EWCS consistently had high weights. In addition, two variables not found in the earlier regression analyses appeared frequently and together. These were taxable income per pupil (TIPM) and principals per district (PPDM). These situational variables are indicators of district wealth and size.

These analyses probably were confounded by forming the groups on two variables. Whether the scaled weights were discriminating between principal effectiveness or organizational climate could not be determined.

Related Findings

Since the relationships among the effectiveness types and job satisfaction were of further theoretical importance and since the climate has been closely associated with effectiveness, the two organizational climate and the five criterion variables also were included in these further analysis of variance procedures.

The findings are as follows. First, several main effects were found to be significant among the effectiveness types. Second, the main effects were in the directions suggested by the theory. Third, very few significant interactions were found to support the contention that effectiveness and situational variables combine to effect other measures of effectiveness. Fourth, the principals' perceptions of themselves were not directly related to the other effectiveness measures.

Synthesis of Findings

The findings appear to be mutually supported. For example, the LBDQ consistly were related to the criterion variables in the three hypotheses. Competitiveness desirability and conservative security in the EWCS, as indicators of risk or lack of risk, were the best motivational measures across the different analyses. The LPC was only marginally related to the effectiveness variables. Finally, climate and situational variables had limited relationships with the criterion variables in any of the analyses.

Implications

Revision of the Theoretical Model

Based on the foregoing findings and recent theoretical developments, the theoretical model presented earlier in Figure 1 must be revised. The first revision should be made in leader style variables. With the exception of the LBDQ behavior scales and two EWCS factors relating to risk and security dimensions, these personality variables were not highly related to the effectiveness criteria. Based on the warnings made by Dubin (1968), the lack of relationships should not be too surprising. He noted that agreement has been reached among behavioral scientists that there is no general cause and effect connection between specific psychological mechanisms and specific behaviors. One explanative viewpoint of this position is that internal motivating forces start the human being in action, and sustain his activity, but that the determinants of particular actions are outside the person in the social structure (Maslow, 1970).

A second revision is suggested by the variables tapping the social structure and other situational factors not being highly related to the effectiveness criteria. A possible alternative would be to delete the situational variables from the model for leader effectiveness. However, the strength of the theoretical and research literature suggest that this is not a defensible option. A more likely explanation for the failure of the situational aspects in theoretical model is the previously discussed methodological problem of the climate measures being highly correlated to the LBDQ behavior scales. Therefore, care must be exercised to include independent and mediating variables which are minimally correlated to each other.

Moreover, the results of a recent study by Osborn and Hunt (1974) has potential utility for further refining the situational aspects in future leadership studies. They asserted that research should emphasize careful separations among internal organizational conditions, immediate environmental conditions of a particular school, and conditions relevant to a series of schools. In other words, internal building climate, attendance area for the building, and district-wide factors should be conceptualized separately and integrated into research studies on organizational effectiveness. Although the present investigation did include some of each of these factors, they were not selected on such a rigorous theoretical rationale.

The relationship between the leader and climate variables can be further elaborated by incorporating the ideas of Frederiksen (1972). He asserted that, particularly for investigations of Person X Situation interactions, a taxonomy of situations should be used that is based on the criterion of similarity with regard to behaviors elicited.

A further modification of the situational variables in the model is based on the assertions by Stogdill (1974). He posited that group characteristics should be included in the model. More specifically, he would include the following group characteristics: size, structure, homogeneity, motivation, and cohesiveness.

The final suggestion for modifying the situational components is provided by Guttentag (1968). She found that stability of the neighborhood population is more highly related to crime and delinquency than is wealth. Potentially, a similar relationship between the school situations and student transiency could be predicted. Therefore, student turnover should be included in the model.

Similar criterion variables to the ones included in this model should be included in any future leadership studies. Seemingly a reasonable position at this formative stage in leader trait and situational characteristic studies is that, to make a significant contribution to the literature, they must use effectiveness as a criterion. Even though the measures in this investigation were admittedly crude, they were relatively independent in that they were collected from different frames of reference and measured a diverse group of effectiveness indicators. However, group satisfaction as an intrinsically positive result in organizational behavior should be included as an additional criterion variable.

I. Leader Traits

- A. Behavior
- B. Personality
    - Risk-Security
    - Task Orientation
    - Social Needs
    - Other
- C. Expectations
- D. Values

II. School Situation

- A. Internal
    - Climate
    - Staff Size
    - Level
- B. External
    - Neighborhood Stability
    - Wealth
- C. Group
    - Homogeneity
    - Structure
    - Motivation
    - Cohesiveness

III. Effectiveness

- A. Personal
    - Subordinate
    - Superordinate
    - Self
- B. Organizational
- C. Satisfaction
    - Self
    - Subordinate

Figure 4. Revised Model for Administrator Effectiveness

Based on the findings of this investigation and these further theoretical and research positions, a revised model for administrator effectiveness is presented in Figure 4. The first observation is that the three levels--traits, situations, effectiveness--have been retained. However, the variables have been modified drastically. First, the leader traits group has been expanded to include personality characteristics other than those used in the present study as well as the leader's expectations and value system. As suggested by Frederiksen (1972), the expectation and value structures in interaction with the school situation could be powerful variables in regard to effectiveness. The demographic characteristics such as education and experience have been deleted.

The school situation variables also have been expanded. The concept of climate has been retained but a better measure should be used in future studies. In addition, the suggestions of Stogdill, Guttentag, and Osborn and Hunt have been incorporated. Finally, subordinate satisfaction has been added as a criterion.

One final consideration must be included. The multiple regresssion analysis procedure was based on the assumption of linear relationships. However, Stogdill (1974) noted that leaders and groups compensate for different conditions. He noted that behaviors tend to change with high and low favorability of the situation. This suggests a different behavior set in a moderate situation. Clearly, a curvilinear or quadratic relationship is posited. The implication is that complex curvilinear assumptions and analysis procedures could well yield significant results.

Practice

Principal Evaluation. Based on the different types of effectiveness, principals should be evaluated on multiple criteria with different methods. For example, the performance for accomplishing the organizational goals should be evaluated separately from the level of subordinate perceptions about the principal and their job satisfaction. Therefore, the results of a single rating scale completed by the principal's superordinate would measure only one dimension of building administrator effectiveness. Conversely, principals may have a tendancy to delude themselves into believing that a positive climate such as high supportiveness or innovativeness is effectiveness. Consequently, principal evaluations should include measures for a number of independent criteria to assis in keeping a focus on the multiplicity of effectiveness concept.

Principal selection. Stogdill (1974) concluded after a review of the literature that the research results are consistent in indicating that the individual who emerges as a leader in one group tends to emerge as a leader when placed in another group with a similar task to perform. Assuming that the tasks that principals perform are similar from building to building, a good indicator of future behavior would be descriptions of leader behavior in their previous assignments. Moreover, the behavioral characteristic of the principals, as described on the LBDQ by the teachers, were closely related to the different effectiveness criteria. Contrarily, the almost total lack of relationship between the two most common variables for selecting principals--experience and education--and administrator effectiveness suggest that selection criteria should be modified. Specifically, selection criteria would be improved with the inclusion of a description of their recent leader behavior when they apply for an administrative position.

Future Research

This study has resulted in a revised model for studying leader effectiveness as well as some general suggestions for improving principal evaluation and selection. However, the caution voiced by Frederiksen, Jensen, and Beaton (1972) should serve as guide in future studies. They asserted that performance as an administrator can vary in many ways and the interpretation in terms of good or bad may be specific to a particular situation. Consequently, future studies should include variables from each of the different groups presented in Figure 4.

Finally, the suggestion of Stogdill (1974), that new variables should be used in place of the standard ones such as the LPC, initiating structure, and consideration should be heeded. Moreover, these new variables should be rigorously developed from the theory while being relatively independent from each other.

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APPENDIX A

INFORMED CONSENT STATEMENT AND RESEARCH INSTRUMENTS COMPLETED BY PRINCIPALS

Dear Principal:

As a University of Kansas faculty member, I have received financial support to investigate the leadership behaviors and attitudes of building principals in different administrative situations. To accomplish this objective, I need to sample the opinions of 160 principals and 1280 teachers from 40 Kansas school districts. Your building was randomly selected for inclusion in the project. Hopefully, you will choose to participate as meaningful data are needed to better understand the dynamics of building administration.

Your direct involvement will take about 25-30 minutes. The bulk of the time (20-25 minutes) will be used to complete the enclosed research instrument. The remaining 5 minutes will be needed later for a telephone interview to ask you if I have interpreted your answers correctly. Your indirect involvement will consist of my sending a short research instrument (53 items) to eight or less of your current staff members and a personal interview with a district level administrator. Of course, you are free to withdraw consent and discontinue participation at any time.

Please respond to the three parts of the research instrument as directed with numbers from 1-5 on a line, an X, or short answers. Please answer every item. If you think the answer needs elaboration, feel free to write in the margins. A self-addressed, postage-paid envelope is enclosed for returning the completed instrument.

The information will be held in the strictest confidence and will be used only for research purposes. As a benefit to you, a summary of the results will be sent to you after the project is completed.

Any questions that you have concerning this research project will be given prompt attention by the project director. Thank you in advance for your cooperation.

Sincerely,

Cecil Miskel
Associate Professor
Project Director

School Building ________

EWCS--THE JOB

Instructions: Given below are a series of questions on things people want in jobs. However, people-differ greatly in the things they want in a job, and jobs differ greatly, even within the same school. This form is designed to gather information about things you consider desirable in a job in the public schools. Respond to each of the items as follows:

"How desirable would you consider each of the following items in a job for YOU? A job in which. . . .

1. Extremely Undesirable. Would never take job.
2. Undesirable Would avoid the job.
3. Neither Desirable or Undesirable.
4. Desirable Would favor the job.
5. Extremely Desirable. Would favor job greatly.

Write on the line preceding each statement the number that best describes your attitudes. For example, if you think the job would be Extremely Undesirable, you would write 1 on the short line preceding the statement, but if you think the job would be Desirable, you would put a 4 in front of it. Give an answer to every item even if you have to guess. Work quickly.

A JOB IN WHICH. . . .

____ 1. I could get fired easily, but the work would be very interesting.

____ 2. salary increases would be strictly a matter of how much I accomplished for the school district.

____ 3. the lighting would be good.

____ 4. school related problems might come up that I would have to take care of myself outside regular hours.

____ 5. the community would have good recreational facilities.

____ 6. I would be involved in managing a small group of people doing routine jobs.

____ 7. the school district would be involved in heavy professional competition.

____ 8. the work might be excessive sometimes.

____ 9. there would be opportunity for creative work.

____ 10. the work would be routine, but not hard to do.

____ 11. salary increases would be determined by the amount of effort exerted.

____ 12. the climate would be pleasant.

____ 13. the community would be a wonderful place to raise a family.

____ 14. the work might run out, but it would be extremely interesting while it lasted.

____ 15. I might sometimes have to take work home with me.

____ 16. the physical working conditions would be attractive.

____ 17. I could get fired easily.

____ 18. the work would be routine, but the initial salary would be high.

____ 19. the work might build up "pressures" on me.

____ 20. the ventilation would be modern.

____ 21. there would be emphasis on individual ability.

____ 22. the school district would encourage further specialized work.

____ 23. promotions would come automatically.

____ 24. competition would be open and encouraged.

____ 25. I would have a chance to further my formal education.

____ 26. I could get fired easily, but the rewards would be high.

____ 27. the work would be routine, but highly respected in the community.

____ 28. I would always have a chance to learn something new.

____ 29. the job would be insecure.

____ 30. the salary increases would be regularly scheduled.

____ 31. the work might come in big pushes sometimes.

____ 32. there would be emphasis on the actual production record.

____ 33. I might be on call when there is pressure to get jobs done.

____ 34. salary increases would be a matter of how much effort you put in.

____ 35. rewards would be high, but if one loses his job it would be very difficult to get another one.

____ 36. there would be emphasis on originality.

LPC - A CO-WORKER

People differ in the ways they think about those with whom they work. This may be important in working with others. Below are pairs of words which are opposite in meaning, such as "Very neat" and "Not neat." You are asked to describe someone with whom you have worked by placing an "X" in one of the eight spaces on the line between the two words. Each space represents how well the adjective fits the person you are describing.

Think of the person with whom you can work least well. He may be someone you work with now, or he may be someone you knew in the past. He does not have to be a person you dislike but should be the person with whom you had the most difficulty in getting a job done.

Look at the words at both ends of the line before you put in your "X". Please remember that there are no right or wrong answers. Work rapidly; your first answer is likely to be the best. Please do not omit any items, and mark each items only once.

I would describe the co-worker that I work with least well in the following way:

1. Pleasant :___:___:___:___/___:___:___:___: Unpleasant
2. Friendly :___:___:___:___/___:___:___:___: Unfriendly
3. Rejecting :___:___:___:___/___:___:___:___: Accepting
4. Helpful :___:___:___:___/___:___:___:___: Frustrating
5. Unenthusiastic :___:___:___:___/___:___:___:___: Enthusiastic
6. Tense :___:___:___:___/___:___:___:___: Relaxed
7. Distant :___:___:___:___/___:___:___:___: Close
8. Cold :___:___:___:___/___:___:___:___: Warm
9. Cooperative :___:___:___:___/___:___:___:___: Uncooperative
10. Supportive :___:___:___:___/___:___:___:___: Hostile
11. Boring :___:___:___:___/___:___:___:___: Interesting
12. Quarrelsome :___:___:___:___/___:___:___:___: Harmonious
13. Self-assured :___:___:___:___/___:___:___:___: Hesitant
14. Efficient :___:___:___:___/___:___:___:___: Inefficient
15. Gloomy :___:___:___:___/___:___:___:___: Cheerful
16. Open :___:___:___:___/___:___:___:___: Guarded

OE--NEW PROGRAMS AND PROCEDURES QUESTIONNAIRE

The five items that follow simply ask you to identify any recent modifications or innovations in programs or procedures for your school building. Please check ( ) No or Yes on each of the five items below.

WITH YOUR LEADERSHIP, HAVE NEW PROGRAMS OR PROCEDURES BEEN PLANNED OR INTRODUCED DURING THIS SCHOOL YEAR

1. To develop new curricula or to change the instructional methods?
   ________ No.
   ________ Yes. If yes, please give an or some example(s).

2. To increase the interpersonal relations and communications or to control internal problems among the student body, staff, and administration?
   ________ No.
   ________ Yes. If yes, please give an or some example(s).

3. To improve faculty morale and satisfaction?
   ________ No.
   ________ Yes. If yes, please give an or some example(s).

4. To decrease student discipline problems or dropout rate?
   ________ No.
   ________ Yes. If yes, please give an or some example(s).

5. To raise student achievement?
   ________ No.
   ________ Yes. If yes, please give an or some example(s).

EE--EXPERIENCE AND EDUCATION

1. How many years experience have you had
   a. as an administrator? ________
   b. in your present position? ________
2. What is the highest level of education that you have completed?

APPENDIX B

INFORMED CONSENT STATEMENT AND RESEARCH INSTRUMENTS COMPLETED BY TEACHERS

Dear Educator:

As a University of Kansas faculty member, I have received financial support to investigate the leadership behaviors of building principals in different school situations. To accomplish this objective, I need to sample the opinions of eight teachers for each of the 160 principals in 40 Kansas school districts. Your building and name were randomly selected for inclusion in the study. Hopefully, you will choose to participate as meaningful data are needed for a better understanding of the dynamics of the principalship.

Your only activity is the completion of the enclosed 53 item research instrument. This should require less than 20 minutes of your time. The instrument is coded only for your school building and consequently, your responses will be completely anonymous. However, to save me postage and you the inconvenience of receiving follow-up requests, a self-addressed postcard with a code number for you is included. Returning the completed research instrument in the postage-paid envelope and the postcard separately allows me to keep a record of who has returned the needed data while maintaining absolute anonymity for the teachers.

The information will be held in the strictest confidence and will be used for research purposes only. In addition, any questions that you have concerning this project will be given my prompt attention.

Finally, as a benefit to you, a summary of the results will be sent to you after the project is completed next summer. Thank you for your cooperation.

Sincerely,

Cecil Miskel
Associate Professor
Project Director

PART I - THE SCHOOL DISTRICT

The following set of questions ask for some of your perceptions and observations about the school district in which you are now working. If you are not certain as to how any of these questions apply to your organization, then please give your BEST ESTIMATE.

Please check ( ) the response that best describes your school district.

1. Does your school district have a systematic scheme for the selection and promotion of personnel in the system?
   ( ) Yes, we have an elaborate scheme
   ( ) Yes, we have some scheme
   ( ) No, but one is being planned
   ( ) No, we really have no scheme

2. How free and open is the interpersonal communications among administrators/teachers in your school district?
   ( ) Very free and open
   ( ) Somewhat free and open
   ( ) Not too free and open
   ( ) Not at all free and open

3. Does your school district make use of cost/benefit analysis or other advanced techniques in making financial and budgetary decisions?
   ( ) Yes, definitely
   ( ) Yes, in some cases
   ( ) No, but we are planning to do so
   ( ) No, not really

4. To what extent do administrators/teachers at various levels in your school district participate in decisions which affect them?
   ( ) To a great extent
   ( ) To some extent
   ( ) To a small extent
   ( ) Hardly at all

5. Does your school district have any organized program for the training and development of its administrators, group leaders, and teachers?
   ( ) Yes, quite a bit
   ( ) Yes, some
   ( ) No, but training is being planned
   ( ) No, we really don't have any

6. Does your school district have a functioning appraisal system or performance evaluation procedure to be used in connection with personnel decisions?
   ( ) Yes, an extensive one
   ( ) Yes, a modest one
   ( ) No, but one is being planned
   ( ) No, we really do not have one

7. Has your school district introduced any modern techniques of predicting student achievement?
   ( ) Yes, many applications
   ( ) Yes, some applications
   ( ) No, but we are planning to do so
   ( ) No, none have been introduced

8. To what extent do you think that top administrators are considerate of the feelings of people in your school district?
   ( ) To a great extent
   ( ) To some extent
   ( ) To a small extent
   ( ) Hardly at all

9. Does your school district have specialized research and development (R&D) groups working on new methods, long-range planning, or policy?
   ( ) Yes, a great deal of "R&D" activity
   ( ) Yes, some
   ( ) No, but "R&D" is being planned
   ( ) No, we really have no such groups

10. In general, does your school district stimulate and approve of innovation and alternative programming?
    ( ) Yes, definitely
    ( ) Yes, somewhat
    ( ) To a slight degree
    ( ) No, not really

11. How would you characterize the climate of interpersonal trust among personnel in your school district?
    ( ) Very high level of trust
    ( ) Considerable trust
    ( ) Some trust
    ( ) Little or no trust

12. To what extent do the teaching, supervisory, administrative personnel have confidence in the technical competence and business judgment of the top administration?
    ( ) Very great confidence
    ( ) Considerable confidence
    ( ) Some confidence
    ( ) Little or no confidence

PART II - THE PRINCIPAL

Below is a list of items that can be used to describe the behavior of your present principal. Each item describes a specific kind of behavior but does not ask you to judge whether the behavior is desirable or undesirable. This is not a test of ability. It simply asks you to describe, as accurately as you can, the behavior of your current principal.

NOTE: The term "group," as used in the following items, refers to the school which is administered by the principal being described.

DIRECTIONS:
a. READ each item carefully.
b. THINK about how frequently the principal engages in the behavior described by the item.
c. DECIDE whether he 4--always, 3--often, 2--occasionally, 1--seldom, or 0--never acts as described by the item.
d. WRITE on the line in front of each item one of the five numbers to show the answer you have selected. For example, if you think that he seldom acts the way indicated, you would write a 1 on the short line preceding the statement.
e. Take your first judgment. . . . ANSWER QUICKLY

KEY: 4 - Always, 3 - Often, 2 - Occasionally, 1 - Seldom, 0 - Never

____ 1. He does personal favors for the group members.

____ 2. He makes his attitudes clear to the group.

____ 3. He does little things to make it pleasant to be a group member.

____ 4. He tries out his new ideas with the group.

____ 5. He is easy to understand.

____ 6. He rules with an iron hand.

____ 7. He finds time to listen to group members.

____ 8. He criticizes poor work.

____ 9. He speaks in a manner not to be questioned.

____ 10. He keeps to himself.

____ 11. He looks out for the personal welfare of individual group members.

____ 12. He assigns group members to particular tasks.

____ 13. He schedules the work to be done.

____ 14. He maintains definite standard of performance.

____ 15. He refuses to explain his actions.

____ 16. He acts without consulting the group.

____ 17. He backs up the members in their actions.

____ 18. He emphasizes the meeting of deadlines.

____ 19. He treats all group members as his equals.

____ 20. He encourages the use of uniform procedures.

____ 21. He is willing to make changes.

____ 22. He makes sure that his part in the organization is understood by group members.

____ 23. He is friendly and approachable.

____ 24. He asks that group members follow standard rules and regulations.

____ 25. He makes group members feel at ease when talking with them.

____ 26. He lets group members know what is expected of them.

____ 27. He puts suggestions made by the group into operations.

____ 28. He sees to it that group members are working up to capacity.

____ 29. He gets group approval in important matters before going ahead.

____ 30. He sees to it that the work of group members is coordinated.

DIRECTIONS:

a. Principals also differ greatly in their abilities to administer a school building effectively.

b. How effective do you consider your present principal to be on the six items listed below?

c. Please write on the line in front of each statement one of the following six numbers to indicate your opinion.

KEY:
1. Ineffective
2. Below Average, Needs Improvement
3. About Average
4. Above Average
5. Very Effective
6. Neutral, No Opinion

How effective is the principal in:

____ 1. establishing order and appropriate procedures which promote school achievement?

____ 2. acquiring personal recognition for himself?

____ 3. developing friendly, warm, and informal relationships with the teacher?

____ 4. setting specific goals and performance measures for the teachers?

____ 5. maintaining independence from subordinates and superiors in exercising the responsibilities of the principalship (He is his own man.)?

____ 6. the overall performance of fulfilling the position's responsibilities?

PART III - NEW PROGRAMS

The five items that follow simply ask you to identify any recent modifications or innovations in programs or procedures for your school building. Please check ( ) No or Yes on each of the five items below.

HAVE NEW PROGRAMS OR PROCEDURES BEEN PLANNED OR INTRODUCED DURING THIS SCHOOL YEAR

1. To develop new curricula or to change the instructional methods?
   ________ No.
   ________ Yes. If yes, please give some examples.

2. To increase the interpersonal relations and communications or to control internal problems among the student body, staff, and administration?
   ________ No.
   ________ Yes. If yes, please give some examples.

3. To improve faculty morale and satisfaction?
   ________ No.
   ________ Yes. If yes, please give some examples.

4. To decrease student discipline problems or dropout rate?
   ________ No.
   ________ Yes. If yes, please give some examples.

5. To raise student achievement?
   ________ No.
   ________ Yes. If yes, please give some examples.

APPENDIX C

INFORMED CONSENT STATEMENTS AND INTERVIEW SCHEDULES FOR PRINCIPALS' SUPERORDINATES

As part of a research project being directed at the University of Kansas, we are making a study of the school principalship. Specifically, we are attempting to relate the leadership behaviors of school principals in different building situations to the perceived effectiveness as seen by their superior. To do this, some detailed information is needed from a number of district level administrators such as yourself.

All information given will be kept completely confidential. True names will not be used nor will your personal opinions be revealed to anyone else. Data will be used only for research purposes.

However, we do need your frank opinions about the school principalship. Of course, you are free to withdraw consent at any time and discontinue the interview. Do you have any questions?

Cecil Miskel
Associate Professor
Project Director

Karen Rinkenbaugh
Research Assistant

John Stewart
Research Assistant

Superordinate Interview Guide

School District ______

I. General Attitudes

A. If you were seeking a new building principal, what characteristics and/or skills would you want that person to have?

Probe Items

Classroom management
Interpersonal relations
Curriculum development
Public relations
Goal setting
Evaluation

B. How would differing situational factors, such as those currently in existance in your school district affect the desired characteristics listed above?

Probe Items

Open space building
Political problems
Changing neighborhood
Racial problems
Religious problems
Size
Rural-urban

II. Buildings

Using the list of principals by building that I have given you,

A. Is there a building(s) listed that is particularly easy to administer?

1. Yes ____ No ____ If yes, which buildings? Why?

B. Is there a building(s) listed that is particularly difficult to administer?

1. Yes ____ No ____ If yes, which buildings? Why?

III. Principals

We are assuming that principals differ greatly in their abilities to administer a school building effectively.

A. Which of the principals listed (is or are particularly effective) (needs improvement) in establishing order and operating procedures in the building?

B. Which of the principals listed (is or are particularly outstanding) (needs improvement) in developing friendly, warm, and informal relationships with the staff(s).

C. Which of the principals listed is or are more (effective) (ineffective) in setting specific goals for the staff?

D. Which of the principals makes building decisions more (independently) (dependently) than others?

E. If you were moving to a new district superintendency, is there a principal that you would really like to move with you? Leave behind?

APPENDIX D

TELEPHONE INTERVIEW SCHEDULE FOR PRINCIPALS

Dear Principal:

About two months ago, you responded to a research instrument that I sent to you. On the last page of the questionnaire, you were asked to list new programs or procedures that have been planned or introduced with your leadership. After receiving your answers, the same questions were sent to about eight (8) of your staff members. The attached sheet represents a compilation of your responses (starred) and your teachers' responses.

I would like you to check the list for accuracy, completeness, and redundancy. In the next few days, we will call you for your reactions to this data tabulation.

Please keep the summary sheet for our telephone conversation. Thank you for your continued assistance in this project. Since this is the last phase of data collection, we will send you a summary of the results in July, 1974.

Best regards,

Cecil Miskel
Associate Professor
Project Director

TELEPHONE INTERVIEW SCHEDULE

1. Call the number and ask for the principal by name.

2. Hello, I am _________________________. I am a research assistant for a project being directed by Cecil Miskel at the University of Kansas. A few days ago we mailed you a letter and enclosed a list of new programs and procedures that have been started in your school this year.

   A. Did you receive it?

   B. May I ask you a few questions about the list?

3. Are there any duplications in the list; that is, are any of the items the same but just stated differently? If yes, which ones?

   (Changes should be noted on tabulation form)

4. Are there any new programs or procedures in your school that are not on the list? If yes, what are they?

   (Record on the tabulation sheet)

5. Finally, how many teachers are under your supervision?

6. How many students attend your school(s)?

APPENDIX E

PRINCIPAL SATISFACTION AND PERSONAL EVALUATION MEASURE

Dear Principal:

Thank you for your participation in the research study of Kansas School Principals that I am directing. The data are being analyzed and a general report along with your responses will be sent to you in July, 1974.

Since the school year is ending and your are probably assessing your feelings toward it, I would like to ask you two final questions about these attitudes. Please check your responses on the enclosed postage-paid card and return it to me.

The questions.

A. Overall, did you and your staff accomplish most of the goals you set for your school last fall?

1. None 2. Few 3. Several 4. Most 5. All

B. How satisfied are you with your present job?

1. Very Dissatisfied 2. Dissatisfied 3. Neutral 4. Satisfied 5. Very Satisfied

Again I thank you for your assistance. The project is complete except for analyzing the data and sending you the final report.

Best regards,

Cecil Miskel
Associate Professor
Project Director

APPENDIX F

FOLLOW-UP LETTERS TO NON-RESPONDENTS

Dear Principal:

About two weeks ago, you were one of 160 Kansas principals who received a survey research instrument from me. This instrument is part of a research project in educational administration that is attempting to describe the leadership behaviors and attitudes of school principals in different building situations. Your building was randomly selected for inclusion in the study. Hopefully, you will choose to participate in the study.

As mentioned previously, your direct involvement will take about 25-30 minutes. Most or about 20-25 minutes of this time will be used in completing the short research instrument that is enclosed. The remaining five minutes will be used in a telephone conversation with you to verify my interpretation of your responses. This is to insure the validity of the research process.

Your indirect involvement will consist of my sending a 53 item descriptive research instrument to eight (8) or less of your current staff members and a personal interview with a district level administrator. Of course, you are free to withdraw consent and discontinue participation at any time.

Please respond to the three parts of the research instrument as directed with numbers from 1-5 on a line, an X, or short answers. Please answer every item. If you think an answer needs elaboration, feel free to write in the margins. A self-addressed, postage-paid envelope is enclosed for returning the completed instrument.

The data will be held in the strictest confidence and will be used only for research purposes. Any questions you have concerning this project will be given my immediate attention. In fact, call me collect at AC913-864-4432.

A summary of the results will be sent to you next summer. Thank you for your cooperation.

Sincerely,

Cecil Miskel
Associate Professor
Project Director

Dear Principal:

About one month ago, you were one of 160 Kansas principals who received a survey instrument as part of a research project that is being conducted at the University of Kansas. This form asks you for your opinions about the job, a fellow worker, and new programs. This is accomplished by simply writing a number, an "X", or a check( ), and possibly a short answer. Completing this instrument should take about 20 minutes of your time now and five minutes later for a telephone interview to validate my interpretation of your responses.

Enclosed is a duplicate of the research instrument in case you misplaced the original. Please respond to the items and return the completed form in the postage-paid envelope.

The information will be held in the strictest confidence and will be used only for research purposes. Of course, you are free to withdraw consent and discontinue participation at any time. In addition, I will respond to any questions that you have about the project if you will write or call me collect at AC913-864-4432.

A summary of the results will be sent to you in July, 1974. Thank you for your participation.

Sincerely,

Cecil Miskel
Associate Professor
Project Director

Dear Educator:

About two weeks ago, you were one of 1280 Kansas public school teachers who received a survey research instrument from me. This instrument is part of a research project in educational administration that is attempting to describe the leadership behaviors of school principals in different building situations. Your building and name were randomly selected for inclusion in the study. Hopefully, you will choose to participate in the study.

I have attempted to ask only for information that is vital to the research, and which only teachers can furnish. In addition, your responses will be anonymous, will be held in the strictest confidence, and will be used only for research purposes. Any questions that you have regarding this project will be given my prompt attention.

Your only activity is the completion of the enclosed form. This consists of 53 items which take 15-25 minutes to complete. The research instrument is coded only for your school building so your responses will remain completely anonymous.

Your prompt attention and cooperation will be appreciated. Please respond to the items, return the completed research instrument in the postage-paid envelope, and mail the coded postcard separately.

As a benefit to you, a summary of the results will be sent to you in July, 1974. Thank you for your cooperation.

Sincerely,

Cecil Miskel
Associate Professor
Project Director

Dear Educator:

About one month ago, you were one of 1280 Kansas school teachers who received a survey instrument as part of a research project that is being conducted at the University of Kansas. The form asks you to describe the school district, the building principal, and new programs. This description is made by simply checking( ) a blank, writing a number, or writing a short answer. Completing this instrument should take about 20 minutes of your time and will be my only request of you for this project.

Enclosed is a duplicate of the research instrument in case you have misplaced the original. This instrument is coded only for your school building so your responses will remain anonymous. Please respond to the items, return the completed form in the postage-paid envelope, and mail the coded postcard separately.

The information will be held in the strictest confidence and will be used for research purposes only. Any questions that you have about this project will be given my immediate attention.

Thank you for your cooperation. A summary of the results will be sent to you next summer.

Sincerely,

Cecil Miskel
Associate Professor
Project Director